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ART. I.—PRODUCTION AND MANUFACTURE OF COTTON.

THE South, at a future day, will perceive and appreciate the value of suggestions made by discriminating friends of the *South*, who have brought before the planter the good policy of manufacturing a proportion, at least, of his cotton. It is to be hoped that the results will, in some measure, meet the views of wise and zealous counselors. If ever a mathematical problem was true, it is no more demonstrable, than that the manufacture of a bulky article, all other things being equal, must be more profitable at home than sending it two thousand, or even one hundred, miles to be manufactured and returned. As it is, a planter desires a bale of cotton made into cloth. He gins and bales it, drags it often, sixty or seventy miles to a shipping point; it goes to New Orleans, thence to Boston, and finally to Lowell. It is manufactured, sent back to Boston, thence to New Orleans, thence to the point of original shipment, and is once more hauled through the mud to the cabin of the planter.

Now, it may be replied, that the planter does no such thing; literally, perhaps not. But practically, and to all purposes, in the investigation of truth, he does the same thing, and, as we shall show, worse, for his own interest.

He sells his cotton; and, when it returns, bearing on its back the charges of carriage to and fro, of manufacture, of commissions, insurance and the heavy profits of the merchant, he buys it. I said he does worse than if he sent it himself to the factory; for, were he to follow that plan, he might save, by proper foresight, many of the charges so liberally, I might say recklessly, put on the staple—at least that of the mercantile profit, which is an important item.

The truth is, that the COLONIAL SPIRIT still adheres to the South. For, were it in the power of Old England, or of New England, to proscribe southern manufacture, they have no inducement to incur the odium of such a legislation. No code could be more stringent than that which the planter has himself practically enacted. Habit and indolence, or rather indifference to his real interests, sustain this code, and no penalties are necessary to enforce it: we are willing bondsmen. The chain has been so long worn that its weight is not felt. We are paying bounties and premiums which, if enforced by authority, would put every southern man in armor to the teeth. Posterity will regard our present condition as an inexplicable anomaly.

With a region producing, or capable of producing, food for millions; a climate and temperature of unsurpassed salubrity, producing abundantly the richest staples in the world—with pine forests, almost illimitable, yielding the best fuel, and in quantities sufficient to feed the steam-horse for centuries—with an over-supply of strong, docile laborer, and, in truth, without the absence of a single facility for all the purposes of manufactures, the South sits immovable, and is content to derive her food and clothing from regions thousands of miles away. She may, indeed, feel a secret satisfaction in doing that which would inevitably ruin any other country on earth, not so favored as her own. Her practice would induce such a conclusion. This is all contrary to reason and to nature. *The South ought to supply the North with cotton manufactures;* and it is a matter of wonder, that northern capitalists have not availed themselves of the superior advantages offered them in the cotton growing regions for manufacturing purposes.

By drawing off from the cultivation a part of his labor, to be applied to manufacturing, the planter must realize several evident advantages. He will have better clothing and cheaper clothing. He will probably make his own bagging and his own rope—for hemp will not be required for baling and binding when manufactures are established among us. Cotton is strong enough for the short distance to which the staple is required to be transported, viz., from the fields to the factory. Indeed, were a gin attached to each engine, all the cotton intended for the manufactory, from the region round about, might be transported in the seed, rendering bagging and rope altogether unnecessary.*

Another advantage attending such a system would be found in establishing a uniform and profitable price for the staple. It would not, certainly, fall below ten cents. Indeed, that is the average rate of many years; but it has been culminating and fluctuating, owing to the combination, powerful and steadily pursued, of the manufacturers, foreign and domestic. It discourages the planter, renders him desponding, and paralyzes his energies. *Let the South, then, combine also*, not in the miserable design of curtailing the fair profits of the laborer, but in the noble and honorable one of extending its area, of rendering it more productive and economical and profitable. By such a policy, the South will bring competition to aid or to extricate her from the almost ruin into which a mistaken course has plunged her. She can, and ought, to meet any manufacturers of the world on her own ground; and if she does so, she will assuredly beat them back. It was a good idea of Leather-stocking, to fire the prairie in advance of the coming flame: such should be the policy of the planter, "*make fire eat fire.*"

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* It may be said, that if cotton should be worth ten cents per pound, it would be cheaper to *buy* bagging and rope. This is delusive. The cotton used for the purposes named, would be the inferior, leafy, or what is called "storm cotton," retaining its strength of fiber, but bearing, from these defects, a price from two to four cents less. This the planter, without feeling the loss, would separate from his crop, rendering the latter more valuable by the process, and have the inferior manufactured into bagging and rope. Another consideration, and an important one, is, that *there would be no drain of gold and silver* to pay for the hemp bagging and rope.

But to our position. There is no region on earth which can make and deliver coarse and medium cottons and threads as cheaply as the South. Let us refer to this subject by itself.

What are the requisite facilities for manufacturing? Undoubtedly, the raw material, power, labor, buildings and machinery. We have the first at our doors, and so, also, the second, for our pine forests are inexhaustible. As for labor, it costs but a trifle—that of feeding and clothing the laborer. The capital invested in laborers is incomparably less than that lying inactive in the princely architecture and expensive fixtures of northern manufactories. There is no haggling and striking for wages, no contention about hours. Uniformity, obedience and wholesome discipline, mark the labor of the South.

Building lots can be had for the asking, and all necessary superstructures could be made by the planters themselves. Substantial log-buildings, one story high, and spread over acres, if necessary, are all that will be required. If such plain houses have less beauty, they possess the advantage of being safer than the seven-storied palaces of Lowell, which tremble to every throb of the engine: and another—if fire occurs, there is but little loss, more particularly as the various departments will be scattered and separated.

For machinery, of course, we must look, at present, to the North; and, until we can establish work-shops for ourselves and instruct our own mechanics, this is a temporary inconvenience.

Now examine these statements. Are they true, or not? If not, where is the error? If they be true, is it not wonderful that, with a few isolated exceptions, the South still remains with folded arms, seemingly insensible of the riches around her, and which require only the outstretching of an arm to be gathered and enjoyed. The industry that would concentrate round such manufactories in every branch of art, the spread of civilization, the diffusion of knowledge and religion, press upon the mind, and their discussion would require a volume.

But, enough for the present. If such reflections can be useful in the furtherance of a good cause, they will have attained their purpose, and you may hear again from

A Mississippi Planter.

ART. II.—THE LEVEE SYSTEM OF LOUISIANA.

Until within a few years past the levees on the banks of the Mississippi have not been continuous, except from the Parish of Point Coupée to a point below the city of New Orleans; and these artificial embankments, confined to the lower portion of the State of Louisiana, have been the means of protecting the front lands of this portion of the river parishes, and of reclaiming a vast amount of back lands even during the usual flood stages of the river: but the levees on this portion have not within a few years past offered the same protection that they formerly did. The question now presents itself, why do they not? We conceive the answer is simply, that the levee system, instead of being confined to the lower portion of the river, is now extended, with the ex-

ception of the mouth of Red river, to the mouth of the Arkansas on the western bank, and almost continuously on the eastern bank, to a point still higher, with the exception of the mouth of the Yazoo; hence the waters that the river formerly discharged into the immense swamps on either side, intersected by innumerable lakes, bayous and lagoons, answering the purpose of so many safety valves to the Mississippi during its flood stages, and retaining water sufficient for a vast internal sea, is confined to the bed of the river, and is forced onward toward the Balize in its wandering career, undermining first one bank and then the other.

The increased quantity of water that the Mississippi is forced to discharge during its flood stage, is then the cause of the caving in of the banks and overflowing of the levees.

The continuous levees on either bank of the river are annually increased in size and height, and we may remark that the sum of thirty thousand dollars was expended by the Parish of Teusas alone, for the year 1847, which was appropriated for the purpose of giving the front levee of that Parish more base and height. Now, presuming that the other river parishes north of Red river have been equally active in elevating their levees, and stopping all the bayous leading from the river to the swamp, the reader can well imagine the consequent effect on the current of the Mississippi, when he takes into consideration the fact that the Mississippi swamp, from the mouth of the Arkansas to the mouth of Red river, will average about twenty-five miles in width, and which, until a very few years past, would average a depth of five feet water at a very moderate calculation, and that too during two or three, and not uncommonly for six, months of the year. This sea of water, confined to the banks of the river that will not average a mile in width, must necessarily give it several more feet of water; and it is a very well established fact, that, as the altitude of the channel of a river is increased, so is the velocity of its current—and as the velocity of the current increases, the bends must necessarily cave in a corresponding ratio, and the bends must become more abrupt. The current is thus occasionally thrown across to the opposite bends almost at right angles, which, meeting the volume of water passing over the bars with less rapidity, causes the furious boils, counter currents and whirlpools, that would not suffer in comparison with Scylla or Charybdis, and causes those eddies that are so common in the Mississippi. Again, as the banks cave in, so too is the current thrown further into the bends and the debris is thrown further down upon the opposite bar; and, as that is extended, the current crosses lower, and the channel strikes the bank in the opposite bend a little further down, and in this manner the caving is shifted from one point to another, and the channel changes position so much, that a steamboat pilot, who has not continued navigating throughout the season, cannot keep a boat in its proper position. Confining this vast volume of water within the banks of the Mississippi, and thus necessarily increasing its power to do harm, is not the only evil consequence of the levee system, for it must be borne in mind, that the water of the Mississippi holds in solution as much *detritus* or deposit as it ever did, and probably more—because it is a well settled fact, as a country becomes subject to agriculture, that more detritus is carried off

by its water courses than when the soil remains in a state of nature. Hence, when we cast an eye over the map of the valley of the Mississippi, with its seventeen hundred navigable tributary streams, and when we take into consideration the natural increase of the population of all those States whose water courses are but tributaries to the father of waters, and when we take into consideration the countless thousands that annually emigrate from Europe to our shores, the greater portion of whom settle in the western States and devote their energies to tilling the soil, we may well be assured that the deposit of the Mississippi must necessarily be increased. When we reflect that a large part, indeed by far the wealthier portion, of our noble State has been built up out of low, uninhabitable marshes by the munificent deposits from the inundations of our great river; and when we further recollect that the Delta of the Mississippi has been extended into the Gulf of Mexico two miles in the last century, by this same deposit; we may form some vague idea of the vast amount of deposit held in temporary solution by the water of the Mississippi.

The river is prevented by the levees from dropping its deposit on the outside of its banks, and thus building up worthless lands as it was wont to do, and hence this enormous amount of deposit is dropped on the bars, and hence we have another cause of the caving in of the banks; for, as the bars become elevated, just in that ratio will the current be deflected with increased violence against the opposite bank—which is a self-evident proposition. There is, unquestionably, a fraction of this detritus carried out into the Gulf, as we have already remarked; but we conceive that to be but a small fraction in comparison to what must be deposited in the bed of the river, when, at a high stage, the water is confined within the banks.

In Europe, two systems of leveeing have been well tested: the one by giving the river a wide berth, as is exemplified by the river Loire, in France—the other by confining the river to a narrow channel, and leaving vents for the surplusage of water during floods, as is exemplified by the river Po, in Italy. In the former case there has been no perceptible filling up of the bed of the river by deposits; in the latter the bed of the river has been so much filled up, that in places it is almost on a level with the surrounding country.

These phenomena of European rivers may not apply very generally to the Mississippi, for we are well aware that our great river often disappoints the calculations and conclusions of the most scientific engineers, more especially in regard to the phenomena of cut-offs, and in some respects may be truly said to be a river sui generis. Yet still it may not be improper to advert to the experiments that have been tested on smaller rivers in other countries. There is no probability that the system of leveeing by giving the river a wide berth, as on the river Loire, in France, will ever be put in practice on the Mississippi; on the contrary, leveeing by a narrow birth is the system that individual interest has already put in practice, and which is sustained by a heavy tax imposed on the river parishes, and for which, in all probability, the aid of the State will be invoked. We have already adverted to the fact, that this system has long since been tested on the river Po, in Italy, the bed of which has been very much filled up with deposits; hence a river con-

fined to a narrow birth, without vents for flood-water like the Mississippi, must necessarily fill up much faster than one that is confined by levees to a narrow birth, having sufficient vents for its flood stages, as in the instance of the Po.

What then is the remedy? and by what means shall we prevent the bed of the lower section of the river from filling up, and how shall we stop the banks from caving? We know of but one method which would probably afford a preventive to these disasters.

We may probably accomplish our purpose by enlarging and deepening the natural outlets of the Mississippi, and by making others. The Atchafalaya, Placquemine, Lafourche, and, if necessary, the Manchac, might be made deeper and wider, as the quicksand, as a general remark, is but twenty feet below the surface of the banks of the Mississippi. Other outlets might be made between the city of New Orleans and the Balize, one particularly on the right bank, the distance below New Orleans, not recollected, where an arm of the Gulf approximates the river within a short distance. The point was pointed out to us, by an eminent and practical citizen of the Crescent City.

As to the practicability of deepening the natural outlets of the Mississippi, we will quote the opinion of C. Croset, State engineer for the year 1833. In his annual report, page 15, he remarks, in regard to Bayou Placquemine: "The navigation is usually interrupted during the summer and autumn; the interruption, however, exists only for a distance of eight miles, one hundred and seventy-two poles being the distance along the bayou to the Indian village; beyond this point there is a constant steamboat intercourse. Indeed the water ponds up from the interior into the bayou five miles and two hundred and twelve poles, which is within two miles two hundred and eighty poles of its mouth." "At the time the levels were taken, the elevation of the Mississippi was only five feet above those interior channels, which were then very near their low tide, the Mississippi itself being said to be four or five feet above its extreme low water mark. It results therefrom, that there can be but a small difference between the low water of the Mississippi, and that of the interior channels, hence the interesting fact is established, that the fall of the Mississippi, when low, from the Bayou Placquemine to the Gulf, cannot be more than from one foot to one and a half feet." On page 17, he estimates the cost of deepening the channel for a constant six feet navigation at $182,000—page 16: "The Mississippi swells occasionally to an elevation of between twenty-nine and thirty feet." The distance from the mouth of the Placquemine to the Balize, by following the meanders of the river, is two hundred miles. The mouth of the Atchafalaya is three hundred and twenty-five miles, and the mouth of the Lafourche is one hundred and seventy-five miles, from the mouth of the Mississippi. We are not aware that the level of the river at a low stage at Lafourche has been taken, and also the comparative level of its waters, where they are affected by the back water of the Gulf, but should presume that there cannot be much difference between the water levels of the Lafourche and the Placquemine. From the examination of M. Croset, it is practically demonstrated, that these bayous may be deepened with no great expense; and it is highly probable that others of an artificial character could be made on the right

and left banks of the river, so that the superfluous waters of floods could not be detrimental when thrown from the upper to the lower plane of the river. By such a policy thousands and tens of thousands of worthless swamp lands would be built up, by deposits from the river, that, in the course of time, would equal in fertility the most choice lands of our State, and thus ultimately the State would be reimbursed, especially if the worthless swamp lands should be ceded by the General Government to Louisiana. Egypt is enriched by the overflowings of the Nile. In Mexico vegetation, to a great extent, depends on irrigation, and the time is not distant when the lands on the banks of the Mississippi, where the chief element of their composition is coarse sand, must be refreshed by deposits from the river, by the means of flood-gates. There are within our knowledge many plantations on the Mississippi, whose soil is composed chiefly of coarse sand that do not produce one-half they formerly did, in consequence of the sinking in the sand of the nutritious portions of the soil: such places need the fructifying influence of the Mississippi deposit, to restore them to their virgin fecundity.

Whilst the levee system is thus heaping up Ossa upon Pelion, as we have attempted to illustrate, and whilst the evil effects of the system are annually increasing, more particularly on the lower plane of the river, unless the outlets of the Mississippi should be deepened and enlarged, and, if necessary, others made, we may expect that the father of waters, driven from his favorite resting places in the secluded swamps of the upper plane of the river, and shut out from his favorite retreats of Providence, St. Joseph, Concordia, and indeed from that vast chain of lakes that skirts his borders, from the Ohio almost to the Balize, where he was wont to rest his weary limbs after the herculean task of tearing up forests by the roots, and the earth itself upon which they had their foundations, will summon his numerous children around him, and make a furious assault on the Lilliputian levees, spreading desolation broadcast throughout the land.

ART. III.—MISSISSIPPI VALLEY.

ON THE IMPROVEMENT OF THE RIVER MISSISSIPPI.

The late crevasse at Sauvé's has called forth a great many projects to prevent a repetition of such calamities, and the most popular appears to be the clearing and deepening of the existing natural channels, and the opening of some artificial ones, above New Orleans, to discharge through them a part of the waters of the Mississippi into the gulf of Mexico.

Now, it is well known that the confluence of two rivers improves the bed and consequent velocity of the water, while, on the other hand, the diffluence impairs it.

The junction of its tributaries with the Mississippi, in its middle course, causes rather a narrowing than an increasing of the breadth of the river. This adjustment lessens the retarding effect of the bed, and augments the gravitating water column. It therefore increases

the velocity of the current and prevents the division of the waters and the formation of bars and islands, as well as inundations.

Assuming that the Mississippi and Missouri had the same breadth b and discharged equal quantities of water, it would be the breadth b' after their confluence, according to the laws which govern the uniform motion of water in open channels,

$$b'=1.32b,$$

or, the breadth of the united stream would be about one-third greater than that of either of the two. But if, on the contrary, the united river should be divided into two equal branches, each of them would have the breadth

$$b=0.76b';$$

that is, the width of each of the branches would be about three-fourths of that of the undivided river.

The junction of two streams causes, therefore, not only an increase in the expansion of the waters, but a greater depth of the mutual bed, which contributes mainly to the improvement of the river.

The great object to be kept in view, is to prevent the elevation of the river's bed and consequent overflow of the adjacent low lands; and the mode is, to produce an increased depth and such a breadth only of the river as will always keep open the channel.

By lowering the bed of the stream and removing all obstructions, we increase the velocity of the water and effect a more rapid discharge. This is the object to be chiefly aimed at in designing works for the preservation or improvement of the proper transverse section of the river. The fall of its surface will admit the lowering of the bed of the Mississippi, by a properly directed system of deepening, without being detrimental to the navigation or lower reach of the river.

The depth of the channel is entirely dependent upon the velocity of the stream, and so is the cleansing of it dependent upon the force of the motion of the water.

Wherever a river widens, the energy of the waters lessens, and shoals are thereby formed that greatly impede its discharge. The velocity of a river can be augmented by the contraction of its cross-section, and it is the plan usually employed to deepen its bed. It is equally proper when the object is to accelerate the discharge of the water, though it may appear paradoxical to aid the efflux of a river by rendering useless a portion of its bed.

In all situations, where the river has shallows, it will be necessary to contract the width by the construction of proper works, so as to impart additional velocity to scour and deepen the channel.

After the removal of the shoals, the stream will be able to maintain a greater depth at low water than when the vertical flow was less; and the contraction of the expanse at the shallows will cause a considerable depression of the level of the water at a high state of the river.

By this removal of shoals, the velocity at the bottom of the river will be greatly increased, and with it the power to carry seaward all sand or other materials. The breadth to which a river may be reduced, if it is not the intention to confine it between permanent works,

is best ascertained at those places along its course where we find neither shoals nor an abrasion of the banks.

Works judiciously located and properly constructed will always produce the desired depth of channel.

Shallows may be formed as well in rivers which flow with great velocity, as in those where the stream is languid. Rapid rivers have the most tenacious bottoms, for they have to resist a greater velocity. We generally find shoals in situations where the river is too broad, or divided into several branches, or where it passes over from one concave shore to another.

Any increase in breadth must diminish the depth, and then, the velocity being so small, the least accidental circumstance will cause the formation of a bar. And this, even, will create two channels; because the force of the stream being lost by expansion, the waters will readily give way to the least impediment placed in the middle of the bed. The stream will then form two curves—the one to the right and the other to the left of the bar—and, if both be preserved, an island will be gradually formed and the river divided into two branches. In most cases, however, islands are formed opposite the concave sides on the accumulating convex banks.

These islands will obstruct the free motion of the water and produce a rise on its surface to some distance above, in proportion to the length and contraction of the branches between it and the shores. The change in the height of the water in the branches, however, will be small, because the velocity is considerably augmented by the increase of the vertical height above the island. The rise here will decrease the velocity of the stream and thereby permit the deposit of the heavy particles of matter suspended in it, and shoals will be formed as in the expanse immediately below it.

Islands and bars, by causing an increased width, prevent the rapid discharge of the water, upon which its depth or vertical rise mainly depends. These obstructions to the current can be removed in most cases, and ameliorated in all.

It is advantageous to shut up the subsidiary channel, where the river is divided, and, if required, to enlarge that one which is in the direct line with the course of the river, so as to assimilate its cross-sectional area to that of the river proper.

In situations where the waters flow along a concave shore, they are pressed together, and we always find it deep close in along the concave side; but where the river passes diagonally across the channel, from one concave side to another, the width of the channel becomes greater, and its depth diminishes, in order to equalize the sectional area which the river is capable of keeping open.

When a river of proper transverse sections runs in a straight direction, there is no reason why it should abrade the bed on one side more than on the other; but if the stream is meandering, it obtains a centrifugal force according to which it will remove from one side and attack the other. This centrifugal force, under equal circumstances, is greater, the larger the volume and velocity of the water and the smaller the radius of its curve. A difference in the tenacity of the sides, a rock, a tree, &c., can easily produce, at the beginning, a small bend,

which becomes larger with the increase of the centrifugal force, and produces several bends; because each one is the necessary cause of another.

Shortening the course of a river produces a greater velocity of the water and a lowering of the surface. This is generally done by cut-offs, or digging a new channel across the narrow neck between two bends of a river. These means are, however, employed only when the length of the course can be considerably shortened, because the gain of a few chains in the distance affords no perceptible advantage; and that the surface becomes lower in the reach above, is proven by the fact, that it takes place as soon as ever the distance of the course is shortened.

A cut-off, or new channel, in a straight line, lessens the number of obstructions to the motion and increases the fall of the water, and consequently augments the velocity of the current in a double ratio, while it protects the upper reach of the river against inundations.

The quantity of water discharged by the Mississippi is sufficiently great to afford, at all times, ample breadth and depth for the purposes of navigation. Besides, the fall of its surface is such that the straightening or shortening of its course cannot produce an evil effect on the navigation.

Bends are, therefore, decidedly injurious to the Mississippi; for, by increasing distance, they diminish velocity and prevent the energy of the waters from being exercised as in a straight direction on the bottom of their bed, and direct its excavating power more to the river's banks, and to the destruction of the adjoining lands.

From the above, it is evident that the channel will be improved by shortening its circuitous course and assisting the floods to deepen the bed, by which we greatly contribute to the rapid discharge of the water and diminish the vertical rise of the river. In order to form a correct opinion as to what extent the course of the river may be improved, it is essential to have correct surveys and observations.

The want of depth, in entering the Mississippi, is principally attributable to the volume of its water being distributed over so many outlets, and discharged, in time of flood, over the whole of the banks, on each side of the passes or outlets.

If the waters were confined within proper banks, the floods would materially aid in creating and preserving the desired depth. By the contraction of an undue augmentation of the width of the river in its lower reach, near the Gulf, no injury to the navigation will be experienced; because, if the works be well arranged, a greater volume of water will be brought to act upon the channel, and the bar and the heavy materials will be carried to a harmless distance into the Gulf.

After a channel is permanently defined by banks, it is sometimes proper to assist the current in deepening the bed. The operation of harrowing the bottom, so as to loosen the materials of which it is composed, and thereby enable the stream to float off the smaller particles into deep water, is often beneficially employed.

Wherever shoals consist of materials capable of removal by the action of a stronger current, dredging operations must be dispensed with by the construction of works to contract the channel, and thus increase the ve-

locity of the water and its consequent action upon the bottom of the bed; unless it be the intention to use the excavated materials in the formation of embankments, to shut up subsidiary channels or to form new banks.

Dredging operations will, however, prove effective in all situations where the bottom consists of gravel, or other heavy materials, which cannot be removed by any judicious increase in the velocity of the current. But, without a correct survey of the river, with longitudinal and transverse sections as well as observations of the rise and fall of the water during the year, or without ascertaining the fall of surface, the velocity and quantity of water discharged at a certain height indicated by the water-meters, the nature of the materials of which the bottom and banks are composed, we are not able to design the necessary works for the regulation of the course of *any* river, or to form a correct opinion as to the extent to which it can be improved.

By comparing observations of the rise and fall of the river, made during several years, we become acquainted with the changes which have been effected, and find whether the works have fully answered the intended end.

The advance of the Delta, the raising of the bottom of the Mississippi near the Gulf, and the innumerable checks given to the river by the increasing divisions *in* the Delta, will gradually diminish the velocity of the waters, so that the accumulations will extend to a greater distance up the river, and inundations will become more and more disastrous. That is, the extension of the Delta, and consequent course of the river into the Gulf, will produce a gradual rise of the bed and the adjacent low lands, which are subject to overflow by its waters. But where levees are erected on the banks, they prevent the overflow and deposit, while the bed continues to rise from the sea upward.

Many rivers have elevated their beds to an alarming extent, by deposits caused by artificial works upon their borders and the extension of agriculture; and we must expect similar results from like causes in the Mississippi.

Levees which are erected according to the mere will and notion of a planter, without any regard to the improvement of the river, or whether it will cause too much or too little expansion, or obstruct the motion of the water when in its swollen state, will, no doubt, in time, present a vast body of water, whose level will be much higher than that of the adjacent country.

The vast quantities of heavy material carried into the river by its tributaries in consequence of the abrasion of their banks, the clearing, culture and draining of adjoining lands, must decrease the transporting power of its waters and render them insufficient to convey all these heavy matters to the Gulf; and hence they must become more or less deposited on its bed, and increase the vertical rise of its surface.

In order to prevent this evil, we must assist the operations of nature by directing the course of the river and its alluvions, so as to insure us that the latter shall act beneficially, not prejudicially, on the depth.

All these considerations tend to direct attention to the subject of levees, as to their good or evil tendency; and it must strike every reflecting mind that they should never be adopted while there remain any means for decreasing the vertical rise of the water.

For a river being inclosed by levees receives all the sedimentary matters which its waters bring along; of which, formerly, a part was deposited on the lands that were overflowed, so that the bed and adjoining low ground become together gradually higher; and it must deposit them, more or less, on the bottom of its bed, by which the surface of the river gradually becomes higher, while that of the protected low lands remains the same.

By adopting the sectional area of the bed in time of a flood, and also when in an ordinary state, we may preserve the required velocity, and thus keep open the channel. Or we should, in the erection of levees or new banks, equalize the sectional area which the river is capable of keeping open. In this case the floods will materially aid in the preservation of the depth. Where this is judiciously followed out, an improvement must take place, not only within the river but on its bars.

While this natural and inevitable process of elevating the bed of the Mississippi, and consequently the surface of its waters, continues, as it must and does, before our eyes—should the principle of non-interference with nature still be adhered to—it must necessarily bring about this result, namely, that the waters of the Mississippi will find a new channel, greatly nearer to the Gulf than the present one, and the city of New Orleans be left, probably, far from its course, and become a mere inland town. Similar cases have happened before, and may again.

But as the action of the waters of the Mississippi can readily effect what is required for its improvement, and as the river affords a sufficient quantity to have at all times ample breadth and depth for the purposes of navigation, wherever its waters are confined within proper banks, we shall be able, by well directed efforts, to diminish the vertical rise of the river and increase the required depth at its mouth, so that no serious inundations will take place, and no impediment be offered to the very largest ships, in their progress from the Gulf of Mexico up to the wharves of New Orleans.

From the foregoing remarks it would appear that the following means will accomplish the object in view:

1. To remove the great bends by cut-offs, in every situation where it can be done. Many objections may, however, be urged in opposition to cut-offs in rapid streams; but here it is the only means which can unhesitatingly be employed to increase the velocity of the current. As this shortening of the course of the river will lower the vertical rise in times of flood, it will protect the levees and operate favorably on the preservation of the banks or shores. This decreased length of the river cannot injure the navigation, because the increased velocity will not be very great.

2. The bed of the river must be properly regulated by the removal of all obstructions to the free motion of the water; the shoals removed by works judiciously located and formed, and the levees placed at a proper distance apart. Where they are found to be too close together, and in situations where their location is injurious to the direct course of the river, they must be carried into the proper line and made of sufficient dimensions. Indeed, all our efforts should be directed to adjust the sectional area of the river to low, mean and high water mark, in order to keep free and open the bed.

Such are my opinions—such my reasons. But if it be otherwise determined, that the river shall have outlets for the discharge of high water, the best mode is to establish extensive lateral outlets, or escapes, by means of overfall dams, to relieve the river of the highest water, and for the protection of the levees against a crevasse, and the country from inundations. The entrance of these may be closed by a flat overfall dam of earth, which, in case of necessity, can be removed, or will break through and wash away without any assistance.

Assuming now, as an example, that the full depth of water in the river over the batture be six feet; the height of the surface of the water in the river, above that of the inner land side, four feet; the depth, below the batture, over the bottom of the canal which carries off the water, to be four feet; the height of the batture above the bottom of the canal, two feet; and the breadth of the opening in the levee, three hundred feet; the discharge will be 10,800 cubic feet per second. But if the water should pass over a regular weir, and the full depth or head be six feet, the discharge will be 17,640 cubic feet per second, while that of the river at New Orleans is at least 648,000 cubic feet per second.

The quantity which would flow through the above outlet would be only one-sixtieth part of that discharged by the river. The above lateral discharge will, therefore, lower the surface of the river only perhaps a few inches.

Such means may be beneficially employed for rivers where barriers of ice are formed, but here it will prove of no material benefit, if we take into account the great discharge of the river in time of flood, and remember that a decrease of volume and velocity will lessen the scouring power and cause an elevation of the bed and a consequent increase in the vertical rise of the surface.

But better far than the construction of any extensive lateral outlets at vast expense, would be the reopening of the Bayou Manchac. This, having once been a natural issue or branch of the Mississippi, would form a far better safety-valve for the escape of the surplus waters in time of a flood, than all artificial ones that may be suggested or undertaken.

In order to raise the low lands by the sedimentary matter carried along by the river, it will be necessary to inundate them; but this discharge we must always have under control, and it therefore cannot be done without large locks. All this being done, the evil will be removed. The danger of floods will be prevented, the levees be more protected, and the low lands rendered useful and secure.

ART. IV.—MELSENS SUGAR MANUFACTURE.

NEW METHOD FOR THE EXTRACTION OF SUGAR FROM SUGAR-CANE AND BEETS, BY M. MELSENS, PROFESSOR OF THE STATE VETERINARY AND AGRICULTURAL COLLEGE OF BELGIUM, CORRESPONDING MEMBER OF THE ROYAL ACADEMY OF BELGIUM—OF THE SOCIETY-PHILOMATHIC, &c. TRANSLATED FROM THE FRENCH BY THOMAS G. CLEMSON.

THE extraordinary circumstances in which I am placed make it my duty to extract from a larger work on which I am engaged the observe

ations most proper to give an exact idea of the researches to which I have devoted myself. Whatever may be the success of my method for the treatment of saccharine substances, I am confident that all my observations will be found exact, and their knowledge may give rise to useful reflections on the part of those occupied in manufacturing sugar, and without doubt to new practical applications in its different branches.

It is a well known fact that, in healthy sugar-cane and healthy beets, all the saccharine matter may be crystallized. It is also known, that this matter may be easily extracted by means of weak alcohol, which may be afterward driven off by evaporation, and leave the sugar in pure and colorless crystals.

In bitter almonds there also exists a substance which may be crystallized by the same means, without losing its purity. But the effect is entirely different when water is used in place of alcohol. This substance found in bitter almonds (amygdaline) disappears or undergoes a metamorphosis, and, by the change, various new substances are formed entirely different from the original. That water should have this effect, it is necessary that it come in contact with the air and that it should encounter and dissolve certain fermenting substances which are found in the tissue of the bitter almonds with the amygdaline.

In the sugar-cane and the beets there exist also these fermenting matters, capable of transforming sugar into other substances. In order to produce their action it is necessary that they should be placed in contact with the saccharine matter by means of water, and should themselves be exposed to the air.

Every one knows with what rapidity the juice of sugar-cane changes character in the warm climates where it is made; and, although this alteration is less rapid in the juice of beets, it is sufficient to create difficulty, and every means has been tried to make the manufacture as rapid as possible in order to avoid this cause of trouble and loss.

For the chemist who makes any analysis, the problem of the extraction of sugar is solved by the use of alcohol. He, by this agent, separates the saccharine matter from the fermenting substances, and destroys the latter without injuring the former; thus preserving the sugar from any destructive influence. But for a large operation it is necessary that the agent should be cheap and easily managed. Alcohol is dear; its use requires the greatest precaution, and is very dangerous. Setting aside then alcohol, is it impossible for chemistry to produce a liquid which has the properties essential for this case, and which, like alcohol, will prevent all fermentation, even when exposed to the air? I think not. I do not even pretend to say that the system which, after many trials, I have considered the best yet known, is either the only one or better than any other.

In the sugar-cane or beet there is saccharine matter dissolved in water; nevertheless, this matter rests in that form a long time without change. If we could then make use of water as a dissolvent in the same manner that nature does, we should extract the sugar without destroying its quality. The difficulties exist neither in the water nor the sugar, but in the air and in the fermenting matter contained in the cells formed by the tissue, which the contact of water puts in action.

This being the case, is it possible to crush the cane, or grate the beet, in a vacuum, and extract the juice and boil it without removing it from this vacuum? If it is possible to do this on a large scale, the problem is solved. But this system seemed to me impracticable, and I have not tried it.

It would appear easier to arrive at the desired result by operating with an inert gas, such as carbonic acid. To grate the beets in carbonic acid, to wash them in water charged with carbonic acid, and to water them upon the grater with water containing carbonate acid of lime, or carbonate acid of magnesia. My essays have not had the success I hoped. The least trace of air is sufficient, and these agents do not seem entirely to annul its effects. Their action is, therefore, uncertain.

I will mention here (only by way of observation) a class of bodies to which recourse is often had to prevent fermentation. These are the metallic oxyds, capable of combining with the fermenting matters, or the substances from which they are produced, and forming insoluble compositions. The oxyd of mercury and the oxyd of lead are in this category. For an analysis in the laboratory, the sub-acetate of lead may be easily and certainly employed, for it precipitates the fermenting substances and everything capable of producing them, and leaves the sugar dissolved. But the unhappy consequences of employing it are too easily to be seen, and have been but too certainly realized every time it has been used in the manufacture of sugar to permit me to believe in the possibility of using it.

The action of tannin and monohydrated phosphoric acid is different. These two agents coagulate the fermenting substances, precipitate the matters that form them, and purify without heat the juice of either sugar-cane or beets, in a manner that renders their application possible.

I thought that I should approach the discovery I sought for in trying—

1. To prevent fermentation during the extraction of the juice, and to avoid the contact of the air while the juice was cold.

2. To profit by the coagulation of the fermenting substances, caused by heat, to carry them off, as is practiced in defecation.

For this purpose I sought a substance, having a great affinity for oxygen, without action on the saccharine matter, or danger to man, cheap, easy to produce anywhere, or to transport.

Three substances particularly fixed my attention: the binoxyd of azote, sulphurous acid, and aldehyde. This remarkable class of compositions, having a great affinity for oxygen, and which contain already two equivalents of this body, and absorb a third with facility to produce acids, appeared to me eminently proper to fulfill one of the conditions mentioned, viz., to prevent, by their presence, the oxygen of the air from acting in producing fermentation.

I have no doubt but that some one more capable than myself will ultimately succeed in giving a practical form to the binoxyd of azote, for I cannot believe but that a substance which destroys instantly oxygen, and forms with it an acid proper to precipitate the fermenting matters, will be one day employed in the extraction of sugar. Dissolved in the sulphate of iron, it would guarantee the juice from all

alteration until the end of the defecation by lime, and this accomplished, the juice would retain scarcely a trace of the reagents employed.

Aldehyde, or the organic substances which resemble it, are too dear. I therefore made no stop at them.

During all the experiments which I slightly mention, I found myself always inclined to return to the use of sulphurous acid. Its efficacy as an obstacle to fermentation is so well proved, its price is so low, its production so easy, and the substances necessary to produce it so universal. It is true that sulphurous acid, which was so successful in the hands of Proust when used to prevent fermentation in the saccharine matter of grapes, has always presented, when applied to the manufacture of beet sugar, insurmountable objections. I was not ignorant either that the most experienced persons had failed in the attempt to use it. Nothing practical had resulted from their efforts.

If sulphurous acid can be profitably used where the must of grapes is concerned; if, in preventing fermentation, it has no influence on the sugar, it is because it possesses at once these two properties either of itself, or because it is converted into sulphuric acid by the action of the air. Every one knows, on the contrary, that the cane sugar is changed, and takes the nature of grape sugar when placed in contact with acids, particularly with sulphuric acid. Thus, however inoffensive the sulphurous acid is when applied to the must of grapes, it is impossible to use it for the juice of the sugar-cane or the beet; for as soon as the air absorbed by the sulphurous acid changes it into sulphuric acid, the effect of this last on the juices mentioned, changes them into grape sugar. Reflecting on this difficulty, I asked myself if sulphurous acid used with a powerful base, such as potash, soda, or lime, would still present this obstacle. I found in reality, that the base absorbing the sulphuric acid as soon as formed left the sugar intact. From this point I was led to make many experiments, easy to re-produce, useless to repeat in detail, and which I will sum up in a few words.

Dissolved sulphurous acid added to a solution of the juice of sugar-cane or beets, prevents fermentation, but destroys slowly the sugar if left cold in contact with the air. If heated, the destruction is much more rapid.

The neutral sulphites of potash of soda and of lime, do not prevent fermentation, but do not injure the sugar, whether cold or warm, Neither of these products, then, would serve.

The acid sulphites, and more especially the sulphite of lime, presented, on the contrary, properties worthy of interest.

Sulphurous acid, in excess, prevents all fermentation. The base which all these salts contain neutralizes the sulphuric acid as fast as it is formed. It remains to be seen if, by themselves, or by their excess of sulphurous acid, they have or not the power to convert cane sugar into grape sugar.

I have heated, for several hours, small quantities of sugar-candy, dissolved in water, with a large quantity of bisulphite of lime. The sugar was changed. It became uncrystallizable, and deliquescent. The syrup thus formed, presented sometimes an appearance with which manufacturers of sugar are well acquainted. Submitted to the

action of heat for evaporation, it remained motionless. There was, therefore, the proper quantity to find out, and much care to be taken; but as it takes a great deal of the bisulphite of lime to destroy the sugar, and a small quantity to destroy fermentation, I thought this agent worthy of a closer examination.

Sugar-candy in cold water, charged with bisulphite of lime, even in excess, crystallizes without loss and without change, by spontaneous evaporation, at a very low heat. It is, therefore, possible to manufacture sugar without artificial heat. Further on, the importance of this remark will be made manifest.

Perfectly white sugar-candy being dissolved in ten times its weight of water, I added half its weight of a solution of bisulphite of lime, marking ten degrees of the areometer of Baumé, and boiled it for about an hour. It was then filtered, to clear it of the neutral sulphite, which was deposited. It was afterward put into a plate, where it crystallized entirely without a trace of molasses, leaving precipitated, however, a small quantity of the tartrate of copper, which had been dissolved in the potash.

Straw-colored sugar-candy, treated in the same way, gives the same result, only that the crystals are lighter colored than the candy itself.

The same experiment with all kinds of sugar produced the same results, whether the liquid, when evaporated, was left acid or had been carefully neutralized after boiling. I found also that the crystallization was as perfect and rapid when the liquid was left unfiltered as when it was filtered before the evaporation.

I have examined with the polarizing apparatus, following the method of Mr. Clerget, the sugars that were produced by these different treatments, and I found—

1. That the crystallized masses gave a direct notation, almost identical with that given after the inversion. The differences, sometimes in one sense sometimes in another, and confounding themselves with the errors of observation, proved that the sugar was not transformed, or that this transformation was practically insignificant.

2. That portions of the liquids, taken at different stages, before the crystallization was complete, presented to the eye all the qualities of cane sugar, and deviated to the right of the plane of polarization, and gave a direct notation almost identical with that observed after the inversion.

It results from this, that, either after crystallization, or in the sirup before crystallization takes place, no difference is to be found between the sugar dissolved in pure water and that which has been submitted to the action of the bisulphite of lime, when the excess is not too great of the bisulphite, or the heat too long continued.

It was, then, reasonable to suppose that the bisulphite of lime, used as a substance having a great affinity for oxygen, and as an antiseptic, would have no injurious effect on the sugar, if it was poured cold upon the beet grater, or the sugar-cane mill, in such a manner as to mix with the juice the instant the cells which contain it were broken. It was also to be supposed, that it would endure the heat necessary for clarifying without injury. In this operation, judging from experience, the lime employed would neutralize the bisulphate, leaving the juice

purified from the fermenting matters, and prepared for evaporation, without loss of sugar. But I soon found that the bisulphite of lime possessed certain qualities which demanded further attention.

White of egg, blood, the yolk of the egg in emulsion, milk mixed with water, when mingled with the bisulphite of lime, and entirely coagulated at a temperature of 100° (centigrade); these liquids, filtered and subjected to evaporation, leave residuums, in which are found a small quantity of azotized matters, mixed with sugar of milk, or the salts of these substances.

To its antiseptic qualities, and its faculty for absorbing oxygen, the bisulphite of lime joins very great powers of clarification. This gave me the idea of the following experiments:

I mixed 50 grammes of sugar-candy, 250 centimeters cubes of milk, 250 centimeters cubes of water, and 50 centimeters cubes of a solution of bisulphite of lime, at 10° of the areometer of Baumé. I boiled and filtered to separate the parts that were coagulated. The concentrated liquid gave a mass perfectly crystallized, which, examined without drying, or purifying, gave 92 per cent. of sugar, by direct notation, and 93.5 after inversion by chloro-hydric acid.

The defecation was easy and complete. The sugar was preserved intact. The water adhering to the crystals, and the salt of milk found in the mass, explain why here was only 92 per cent. of sugar in the 100.

I employed in another experiment 50 grammes of sugar-candy, half of an egg, white and yolk mixed, 25 centimeters cubes of milk, 75 centimeters cubes of solution of bisulphate of lime, and 450 centimeters cubes of water. This mixture boiled and filtered, gave a liquid which crystallized without molasses. The polarizing apparatus gave 85 per cent. of sugar by direct notation, and 86 after the inversion. There was then only the cane sugar, and 13-100 composed of hygrometric water, the excess of the bisulphate of lime, the salts of milk, &c.

The bisulphate of lime at 100° (centigrade) acts as a defecator. It separates the albumen, the caseum, and, as will be seen hereafter, the azotized matters analogous, which exist naturally in the cane and the beet. This separation is effected without loss or change in the sugar, except that which may be estimated at 2-100 of the mass, of which no count can be taken in experiments of this nature.

It remains at present to be seen what part of the bisulphate plays in preventing the colorization of the sirup.

The coloring matter of cane or beet sirup comes from four principal causes—

1. The substances containing the coloring matters which are dissolved in the juice.

2. The contact of the air and the pulp creates rapidly coloring matters which are added to the preceding.

3. The heat employed in the evaporation in changing the character of part of the sugar, and the other substances connected with it, forms also coloring matter.

4. The air, the lime and the ammonia, aided by heat, give rise during the evaporation of the juice, alkalized by the lime, to coloring matters.

The bisulphate of lime carries away, almost immediately, the color-

ing matter which exists in the cane and the beet. It prevents the formation of others during the process of manufacture, and especially of those which require to form them the action of the air and a free alkali. The bleaching power of the bisulphite of lime, with regard to the original coloring matters contained in the cane and the beet, is not absolute. It appears to act by a colorless combination which is formed between these substances and the sulphurous acid. This effect is well known to chemists. When there is a sufficient quantity of green matter to be seen in the stems or roots treated, we frequently see the sirup, after losing its color under the action of the bishulphite, become slightly tinged again as it concentrates, and again colorless when longer subjected to heat.

In preventing the coloring of the pulp the bisulphite of lime is wonderfully efficacious, and so durable that too much cannot be said of its power. I have kept for six months, in badly covered vessels, the pulp of beets, which remained colorless from the effect of the bisulphite, when it is well known that, under ordinary circumstances, they would have become very brown from the action of the air.

I do not hesitate to say that there are many cases where the bisulphite might be most efficaciously employed to prevent the formation of coloring matter, which give so much trouble to destroy when once formed; such as those that stain the filaments of hemp or of flax, after steeping, and indigo after it is precipitated, bark juice employed in tanning, the extracts of certain dye woods, &c. But all these points will be examined hereafter. For the moment I content myself with the statement I made above, that coloring matters that are spontaneously produced without heat in the pulp exposed to the air, never make their appearance when the bisulphite of lime is used.

I will add that the evaporation without artificial heat: 1st, of a liquid formed by dissolving in water cane sugar; 2d, of cane sirup, and, 3d, of beet juice, there will be no color where the bisulphite is used, and that where artificial heat is used for evaporation the coloring is scarcely perceptible. Nay, more, that the sugar obtained by this process from red beets, is completely colorless.

I have never observed perceptible discoloration, except in rare instances, and even then it was so slight as to be of no consequence in the manufacturing of a large quantity.

It is thus proved that the bisulphite of lime may be used with success in the extraction of sugar from cane or beets:

1. As a powerful antiseptic, preventing the production or action of fermenting matter.

2. As, from its affinity for oxygen, capable of preventing the changes which the presence of that agent causes in the juice.

3. As an agent which at 100° (centigrade) defecates the juice, and removes from it all the albumen and coagulated matter.*

4. As carrying away the preëxisting discoloration.

5. As an agent capable in the highest degree of preventing the formation of coloring matters.

* There remains, however, after this clarification, a matter which is colored by the air, or the influence of an alkali, first violet and afterward brown. It is probable that it is an azotized substance.

6. As capable of neutralizing all the hurtful acids which may exist or be formed in the juice, substituting for them an acid almost inert (sulphurous acid).

It remains to be seen under what form or in what quantity the bisulphite of lime should be applied to the cane or beets. What new facts may be discovered in manufacturing a large quantity, and what inconveniences may over balance the advantages it seems to offer. This is what I now intend to examine, arguing from my own experience, without exaggeration, but also without timidity.

One of the thoughts which has the most sustained and excited me in the course of my researches, was the hope, that, in the equatorial regions at least, sugar might be extracted by the heat of the sun alone. What would prevent, that, once preserved from change, the juice of the sugar-cane should be abandoned to slow crystallization in the open air, like salt in the salt marshes? I should say there was no obstacle, and I call to witness all those who have seen my experiments. They have all been of the same opinion. This opinion and this desire will explain why the experiments I am going to state have received the direction I have given them.

It is well known that there exists in Murcia manufactories for making sugar from cane. They have resisted all the vicissitudes that the commerce of sugar has experienced for sixty years and are still in full activity. It is from these manufactories that a friend procured me some hundred pounds of fresh sugar canes for my experiments. They reached the laboratory of the Sorbonne, in Paris, where I made my experiments, in a good state. They were pronounced by persons who had been in the colonies and were acquainted with the subject, to have been imperfectly ripened. A good many were worm-eaten. My experiments, then, from such materials, could not be expected to be very satisfactory; nevertheless, the first essay I made filled with astonishment persons accustomed to the manufacturing of sugar, and capable of judging the results obtained.

The juice was extracted by a coarse grater, adding bisulphite of lime during the operation. It was clarified by boiling, and simply filtered through a cloth strainer. The concentrated sirup was filtered a second time, and left to crystallize slowly. This it did to almost perfect dryness. An analysis by alcohol could have given nothing better, either in quantity or quality. It was even more colorless than sugar obtained by alcohol.

In these experiments all the sugar contained in the juice took a solid and crystallized form. The crystals were large and firm. They were not more colored than ordinary sugar-candy, which they resembled in appearance. The traces of molasses were almost imperceptible.

Taking into consideration the almost entire purity of the juice of the sugar-cane, which, really once clarified, is only sugar and water, and considering also the aptitude which cane sugar has to form large crystals, in which quality it is far superior to beet sugar, I am sure that the first colonist who attempts to evaporate slowly a quantity of sirup will perceive that the crystals, in size, color and appearance, are so superior, that the advantages of the process will be entirely evident to his mind.

I changed the proportions of the bisulphite of lime; I experimented separately on the ripest canes, on the greenest, and on the worm-eaten, and in all my essays the result was the production of crystallized sugar. I never found a spoonful of molasses that could not be crystallized.

The analysis of the juice and the action of the bisulphite on it were always the same, both as regards the substances contained and the quantity of sugar obtained.

The operation is so simple and so correct in its results that it appears almost necessary to do wrong expressly in order to fail to extract all the juice from the sugar-cane.

Every one knows that the juice extracted from the sugar-cane is sometimes not more than the half, never more than two-thirds, of the quantity really contained in the cane. There remains, then, in the crushed cane, at least a third of the saccharine matter. To extract this by washing, in warm climates, is impossible, on account of the rapidity with which fermentation takes place; but if the bisulphite of lime is mixed in the water used in washing, nothing is easier. There is no need for hurry, and the washing may be so perfect as to extract the last particle of sugar.

Thus obtained, these washings would be nearly as rich as the juice itself. Treated in the same manner, by defecation at 100° (centigrade), simple filtration and concentration into sirup, and then slow evaporation, they would give the same results as the juice.

I tried, with the crushed cane, this method with a lively curiosity, and I succeeded in producing large crystals of pure sugar, and much superior in color to the best sugar sent us from the colonies.

Even more, and that for reasons that chemists had already discovered, the skimmings and the filters employed in filtration, after several days' exposure to the air and the danger of fermentation, yielded pure crystallized sugar. It was only necessary to wash all these substances in water charged with the bisulphite of lime, and evaporate this water.

Thus, the bisulphite of lime rendered the sugar almost as unalterable as mineral salt; that of the juice, the crushed cane, the scum, and the filters, produced the same large grains, of a colorless or a slightly yellow candy. All this requires neither care nor study—and nothing renders hurry necessary. As long as the bisulphite exists in the smallest appreciable quantity in the liquid, it prevents all alteration.

I know nothing of the colonies; and it would not, therefore, become me to pronounce if the employment of such a process would, or would not, have the effect of producing division of property, by enabling the negroes who inhabit them to extract the sugar profitably on a small scale; but I do not hesitate to say, that my essays proved that this change in the cultivation and in property is possible.

It may be objected, that powerful mills are necessary to crush the cane. This is not so. A root-cutter and a grater are all that is necessary, because the washing is so complete, by the employment of the bisulphite of lime, that all the juice may be extracted in that way from the cane, cut or torn in the rudest manner. However that may be, I will now give the method I arrived at, treating the canes which I had sent to me:

1. I broke up the canes by means of a beet-grater, watering the pulp during the operation with a solution of the bisulphite of lime. I

then pressed out the juice, which was boiled, filtered and evaporated by fire to the density of about one-third what the cold sirup should be, filtered again, and left to slow crystallization. This gave me, in a few days, a mass of candy, from which it was impossible to extract any molasses.

2. The crushed cane or pulp, whichever it may be called, was wet with water, submitted to another pressure, which produced another juice, less rich. This, treated like the first, gave the same results.

3. I repeated again this last operation.

For all these experiments, I employed one per cent. of the weight of the cane of a solution of the bisulphite of lime, at 10° areometer Baumé. I took out the whole of the sugar, and found all of it in a solid form. My operations, though evidently susceptible of being applied to manufacturing on a large scale, presented, at the same time, a perfect analysis of sugar cane.

If experienced chemists, who, like Mr. Caraseca, in Havanna, and Mr. Arequin, in Louisiana, are in reach of sugar manufactories, will repeat my experiments on a larger scale, I am sure their opinion will be soon formed.

I will now mention the objection to my process. The sugar obtained by it has a taste of sulphur; but it loses this in three manners:

1. Crushed and exposed to the air, the sulphite becomes neutral sulphate.*

2. Exposed to an ammoniacal atmosphere, the sugar loses its sulphurous flavor, and often takes a taste of vanilla, very agreeable, but it is sometimes slightly colored.

3. Clayed so as to lose about ten per cent. of its weight, it gives a sugar equal to the purest and whitest sugars of commerce.

The sirup used in claying may be regenerated by evaporation, and gives crystals similar to the others.

For manufacturing, I recommend the third process.

I will only, for the moment, slightly mention a circumstance that may cause difficulty. The sulphates and the sulphites are changed by the contact of organic matter into sulphurets. The formation of sulphurets, and the appearance of free sulphur, which would probably be the consequence, are not presented in any of the numerous specimens which I possess, and of which some, of beet sugar, are already quite old.

I recapitulate: One hundred kilogrammes of cane contain about eighteen kilogrammes of sugar, when in good condition. They yield sixty kilogrammes of juice, when well managed, and this gives twelve kilogrammes of sugar.

There is usually extracted from the juice, from six to seven kilogrammes of unrefined sugar. There is, therefore, a loss of five or six kilogrammes in the operation; besides which, six kilogrammes are left in the crushed cane.

It results from this, that, by applying the new process to the juice alone, twelve kilogrammes of refined sugar will be obtained, in place

* As crystallized sugar does not contain solid bisulphite, but only neutral sulphite, this can only give neutral sulphate. If the sugar is acid, this acidity is derived from the acid phosphate of lime, formed by the action of sulphurous acid and the phosphate of lime in the juice.

of six or seven kilogrammes of unrefined sugar. If the crushed canes are also submitted to this process, seventeen or eighteen kilogrammes of sugar will be obtained from one hundred kilogrammes of cane; that is to say, the whole amount of saccharine matter contained in the cane may be extracted. In saying, therefore, that the yield of sugar from cane might be doubled, I stated nothing in which my experiments did not bear me out, and certainly was far from exaggerating.

The future will decide. I await its judgment with the most perfect confidence. The bisulphite of lime will enable the manufacturer to do all which the chemist can do with alcohol; and if the latter extracts eighteen kilogrammes, the former will also, one of these days.

Whether the evaporation should be carried on to the end by boiling; whether the sirup should be concentrated one-third, and finished in the drying room; or, whether the evaporation should be entirely carried on in cases exposed to the sun, is more than I am able to decide. Local circumstances, and studies on the spot, will determine this. I will only remark, that the use of the bisulphite, by preventing fermentation, renders the use of large, shallow cases or reservoirs of wood easy, and permits even rooms of graduated heat for drying.

I did not have at my disposal a sufficient quantity of juice to try these different methods, but I desire to show that they are worthy of essay, and I recommend to the attention of Mr. Caraseca, or any other chemist, in a favorable position for trying it, the following experiment:

I took beet juice, to which I added four per cent. of the normal solution of bisulphite of lime. Having clarified it, I put it into a pine case, which I had previously washed well with the bisulphite. The bottom was pierced with holes, each of which had a string passed through it, which hung down, and thus offered numerous means for the juice to run off, and a large surface for evaporation. As fast as the juice was collected in a vase placed under the strings, it was poured over again, and thus concentrated by passing several times; the sirup was placed in a flat vessel, where it crystallized almost entirely. In the little molasses which was separated from the crystals, new crystals were formed, and these last were as perfectly characterized as the first.

If, with beet juice and an imperfect apparatus, this experiment succeeded, why should it not with cane juice, which is purer and richer, in hotter countries, in the open air, and with a more carefully arranged apparatus? Why not seek, in the heat of the sun, where it is so intense and so certain, the means of replacing coal or other combustibles which are not to be had?

Whatever may be the means of evaporation which experience may prove to be the best, the striking results obtained in operating on a few hundred pounds of cane, has convinced me that the extraction of sugar in the colonies will hereafter follow new and more profitable methods. The juice and crushed cane being placed out of the reach of fermentation, I was, therefore, fully disposed to take, immediately, the measures necessary to insure a prompt essay of my system. This I hope to do (with the aid of Mr. de Tracy, Minister of the Marine in France, who has shown me much kindness), either in the French colonies or in Algiers, where many well informed persons think that the sugar-cane would succeed perfectly, and where the greater quantity of sugar given

by my method would enable them to produce, at a low price, sugar which, from its favorable position, would command the market of the Mediterranean.

[To be Concluded in our next.]

ART. V.---GOV. HAMMOND'S LETTERS ON SLAVERY.---No. 3.*

PHYSICAL AND MORAL CONDITION OF SOUTHERN SLAVES COMPARED WITH ENGLISH LABORERS; SCHEMES OF ABOLITION; MORAL SUASION; FORCE; COMPETITION OF FREE LABOR; WEST INDIA EMANCIPATION.

PERHAPS a few general facts will best illustrate the treatment this race receives at our hands. It is acknowledged that it increases at least as rapidly as the white. I believe it is an established principle, that population thrives in proportion to its comforts. But when it is considered that these people are not recruited by immigration from abroad, as the whites are, and that they are usually settled on our richest and least healthy lands, the fact of their equal comparative increase and greater longevity, outweighs a thousand abolition falsehoods, in favor of the leniency and providence of our management of them. It is also admitted that there are incomparably fewer cases of insanity and suicide among them than among the whites. The fact is, that, among the slaves of the African race, these things are almost wholly unknown. However frequent suicide may have been among those brought from Africa, I can say that, in my time, I cannot remember to have known or heard of a single instance of deliberate self-destruction, and but of one of suicide at all. As to insanity, I have seen but one permanent case of it, and that twenty years ago. It cannot be doubted that, among three millions of people, there must be some insane and some suicides; but I will venture to say, that more cases of both occur annually among every hundred thousand of the population of Great Britain, than among all our slaves. Can it be possible, then, that they exist in that state of abject misery, goaded by constant injuries, outraged in their affections and worn down with hardships, which the abolitionists depict, and so many ignorant and thoughtless persons religiously believe?

With regard to the separation of husbands and wives, parents and children, nothing can be more untrue than the inferences drawn from what is so constantly harped on by abolitionists. Some painful instances perhaps may occur. Very few that can be prevented. It is, and it always has been, an object of prime consideration with our slaveholders to keep families together. Negroes are themselves both perverse and comparatively indifferent about this matter. It is a singular trait, that they almost invariably prefer forming connections with slaves belonging to other masters, and at some distance. It is, therefore, impossible to prevent separations sometimes, by the removal of one owner, his death or failure, and dispersion of his property. In all such cases, however, every reasonable effort is made to keep the parties together, if they desire it. And the negroes forming these

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*Continued from December No., Vol. VII.

connections, knowing the chances of their premature dissolution, rarely complain more than we all do of the inevitable strokes of fate. Sometimes it happens that a negro prefers to give up his family, rather than separate from his master. I have known such instances. As to willfully selling off a husband or wife or child, I believe it is rarely, very rarely, done, except when some offense has been committed demanding "transportation." At sales of estates, and even at sheriff's sales, they are always, if possible, sold in families. On the whole, notwithstanding the migratory character of our population, I believe there are more families among our slaves, who have lived and died together without losing a single member from their circle, except by the process of nature, and in the enjoyment of constant, uninterrupted communion, than have flourished in the same space of time and among the same number of civilized people in modern times. And, to sum up all, if pleasure is correctly to be defined to be the absence of pain (which, so far as the great body of mankind is concerned, is undoubtedly its true definition), I believe our slaves are the happiest three millions of human beings on whom the sun shines. Into their Eden is coming Satan in the guise of an abolitionist.

As regards their religious condition, it is well known that a majority of the communicants of the Methodist and Baptist churches of the South are colored. Almost everywhere they have precisely the same opportunities of attending worship that the whites have, and besides, special occasions for themselves exclusively, which they prefer. In many places, not so accessible to clergymen in ordinary, Missionaries are sent, and mainly supported by their masters, for the particular benefit of the slaves. There are none, I imagine, who may not, if they like, hear the Gospel preached at least once a month—most of them twice a month, and very many every week. In our thinly settled country the whites fare no better. But, in addition to this, on plantations of any size, the slaves who have joined the church are formed into a class, at the head of which is placed one of their number, acting as deacon or leader, who is, also, sometimes a licensed preacher. This class assembles for religious exercises weekly, semi-weekly, or oftener, if the members choose. In some parts, also, Sunday schools for blacks are established, and Bible classes are orally instructed by discreet and pious persons. Now, where will you find a laboring population possessed of greater religious advantages than these? Not in London, I am sure, where it is known that your churches, chapels and religious meeting houses, of all sorts, cannot contain one-half of the inhabitants.

I have admitted, without hesitation, what it would be untrue and profitless to deny, that slaveholders are responsible to the world for the humane treatment of the fellow-beings whom God has placed in their hands. I think it would be only fair for you to admit, what is equally undeniable, that every man in independent circumstances, all the world over, and every government, is, to the same extent, responsible to the whole human family for the condition of the poor and laboring classes in their own country and around them, wherever they may be placed, to whom God has denied the advantages he has given themselves. If so, it would naturally seem the duty of true humanity

and rational philanthropy to devote their time and labor, their thoughts, writings and charity, first, to the objects placed, as it were, under their own immediate charge. And it must be regarded as a clear evasion and sinful neglect of this cardinal duty, to pass from those whose destitute situation they can plainly see, minutely examine and efficiently relieve, to inquire after the condition of others in no way intrusted to their care, to exaggerate evils of which they cannot be cognizant, to expend all their sympathies and exhaust all their energies on these remote objects of their unnatural, not to say dangerous benevolence; and, finally, to calumniate, denounce and endeavor to excite the indignation of the world against, their unoffending fellow creatures for not hastening, under their dictation, to redress wrongs which are stoutly and truthfully denied, while they themselves go but little further in alleviating those chargeable on them, than openly and unblushingly to acknowledge them. There may be, indeed, a sort of merit in doing so much as to make such an acknowledgment, but it must be very modest if it expects appreciation.

Now I affirm, that, in Great Britain, the poor and laboring classes of your own race and color, not only your fellow beings, but your *fellow citizens*, are more miserable and degraded, morally and physically, than our slaves; to be elevated to the actual condition of whom, would be to these, *your fellow citizens*, a most glorious act of *emancipation*. And I also affirm, that the poor and laboring classes of our older free States would not be in a much more enviable condition but for our slavery. One of their own Senators has declared in the United States Senate, "that, the repeal of the tariff would reduce New England to a howling wilderness" And the American tariff is neither more nor less than a system by which the slave States are plundered for the benefit of those States which do not tolerate slavery.

To prove what I say of Great Britain to be true, I make the following extracts from the reports of Commissioners appointed by Parliament, and published by order of the House of Commons. I can make but few, and short ones. But similar quotations might be made to any extent, and I defy you to deny that these specimens exhibit the real condition of your operatives in every branch of your industry. There is, of course, a variety in their sufferings. But the same incredible amount of toil, frightful destitution, and utter want of morals, characterize the lot of every class of them.

COLLIERIES.—"I wish to call the attention of the Board to the pits about Brampton. The seams are so thin, that several of them have only two feet headway to all the working. They are worked altogether by boys from eight to twelve years of age, on all-fours, with a dog belt and chain. The passages being neither ironed nor wooded and often an inch or two thick with mud. In Mr. Barnes's pit, these poor boys have to drag the barrows with one hundred weight of coal or slack sixty times a day sixty yards, and the empty barrows back, without once straightening their backs, unless they choose to stand under the shaft and run the risk of having their heads broken by a falling coal."—*Report on Mines*, 1842, *p.* 71. "In Shropshire the seams are no more than eighteen or twenty inches."—*Ibid*, *p.* 67. "At the Booth pit," says Mr. Scriven, "I walked, rode and crept, eighteen

hundred yards to one of the nearest faces."—*Ibid.* "'Chokedamp,' 'firedamp,' 'wildfire,' 'sulphur' and 'water,' at all times menace instant death to the laborers in these mines." "*Robert North*, aged sixteen: Went into the pit at seven years of age, to fill up skips. I drew about twelve months. When I drew by the girdle and chain, my skin was broken, and the blood ran down. I durst not say anything. If we said anything, the butty, and the reeve, who works under him, would take a stick and beat us."—*Ibid.* "The usual punishment for theft, is to place the culprit's head between the legs of one of the biggest boys, and each boy in the pit (sometimes there are twenty) inflicts twelve lashes on the back and rump with a cat."—*Ibid.* "Instances occur in which children are taken into these mines to work as early as four years of age, sometimes at five, not unfrequently at six and seven; while from eight to nine is the ordinary age at which these employments commence."—*Ibid.* "The wages paid at these mines is from $2,50 to $7.50 per month, for laborers, according to age and ability—and out of this they must support themselves. They work twelve hours a day."—*Ibid.*

In Calico Printing.—"It is by no means uncommon, in all the districts, for children five or six years old to be kept at work fourteen to sixteen hours consecutively."—*Report on Children*, 1842, *p.* 59.

I could furnish extracts similar to these in regard to every branch of your manufactures, but I will not multiply them. Everybody knows that your operatives habitually labor from twelve to sixteen hours, men, women and children, and the men occasionally twenty hours per day. In lace making, says the last quoted report, children sometimes commence work at two years of age.

Destitution.—It is stated by your commissioners, that forty thousand persons in Liverpool, and fifteen thousand in Manchester, live in cellars; while twenty-two thousand in England pass the night in barns, tents, or the open air. "There have been found such occurrences as seven, eight and ten persons in one cottage, I cannot say for one day, but for whole days, without a morsel of food. They have remained on their beds of straw for two successive days, under the impression that in a recumbent posture the pangs of hunger were less felt."—*Lord Brougham's Speech, 11th July*, 1842. A volume of frightful scenes might be quoted to corroborate the inferences to be necessarily drawn from the facts here stated. I will not add more, but pass on to the important inquiry as to

Morals and Education.—"*Elizabeth Barrett*, aged fourteen: I always work without stockings, shoes or trowsers. I wear nothing but a shift. I have to go up to the headings with the men. *They are all naked there.* I am got used to that."—*Report on Mines.* "As to illicit sexual intercourse, it seems to prevail universally, and from an early period of life." "The evidence might have been doubled which attests the early commencement of sexual and promiscuous intercourse among boys and girls." "A lower condition of morals, in the fullest sense of the term, could not, I think, be found. I do not mean by this, that there are many more prominent vices among them, but that moral feelings and sentiments do not exist. *They have no morals.*" "Their appearance, manners and moral natures (so far as

the word *moral* can be applied to them) are in accordance with their half-civilized condition."—*Report on Children.* "More than half a dozen instances occurred in Manchester, where a man, his wife and his wife's grown up sister, habitually occupied the same bed."—*Report on Sanitary Condition* *Robert Cruchilow*, aged sixteen: "I do n't know anything of Moses—never heard of France. I do n't know what America is. Never heard of Scotland or Ireland. Can 't tell how many weeks there are in a year. There are twelve pence in a shilling, and twenty shillings in a pound. There are eight pints in a gallon of ale."—*Report on Mines.* *Ann Eggly*, aged eighteen: I walk about and get fresh air on Sundays. I never go to church or chapel. I never heard of Christ at all."—*Ibid.* *Others:* "The Lord sent Adam and Eve on earth to save sinners." "I do n't know who made the world—I never heard about God." "I do n't know Jesus Christ—I never saw him—but I have seen Foster who prays about him." *Employer:* "You have expressed surprise at Thomas Mitchel's not hearing of God. I judge there are few colliers here about that have." *Ibid.*

I will quote no more. It is shocking, beyond endurance, to turn over your *records*, in which the condition of your laboring classes is but too faithfully depicted. Could our slaves but see it, they would join us in lynching abolitionists, which, by the by, they would not now be loth to do. We never think of imposing on them such labor, either in amount or kind. We never put them to *any work* under ten, more generally at twelve years of age, and then the very lightest. Destitution is absolutely unknown—never did a slave starve in America; while, in moral sentiments and feelings, in religious information, and even in general intellgence, they are infinitely the superiors of your operatives. When you look around you, how dare you talk to us, before the world, of slavery? For the condition of your wretched laborers, you, and every Briton who is not one of them, are responsible before God and man. If you are really humane, philanthropic and charitable, here are objects for you. Relieve them. Emancipate them. Raise them from the condition of brutes to the level of human beings—of American slaves, at least. Do not, for an instant, suppose that the *name* of being freemen is the slightest comfort to them, situated as they are, or, that the bombastic boast that "whoever touches British soil stands redeemed, regenerated and disenthralled," can meet with anything but the ridicule and contempt of mankind, while that soil swarms, both on and under its surface, with the most abject and degraded wretches that ever bowed beneath the oppressor's yoke.

I have said that slavery is an established and inevitable condition to human society. I do not speak of the *name*, but the *fact*. The Marquis of Normanby has lately declared your operatives to be "*in effect slaves.*" Can it be denied? Probably; for such philanthropists as your abolitionists care nothing for facts. They deal in terms and fictions. It is the *word* "slavery" which shocks their tender sensibilities; and their imaginations associate it with "hydras and chimeras dire." The thing itself, in its most hideous reality, passes daily under their view, unheeded; a familiar face, touching no chord of shame, sympathy or indignation. Yet, so brutalizing is your iron

bondage, that the English operative is a by-word through the world. When favoring fortune enables him to escape his prison-house, both in Europe and America he is shunned. With all the skill which fourteen hours of daily labor from the tenderest age has ground into him, his discontent, which habit has made second nature, and his depraved propensities, running riot when freed from his wonted fetters, prevent his employment whenever it is not a matter of necessity. If we derived no other benefit from African slavery in the southern States, than that it deterred your *freedmen* from coming hither, I should regard it as an inestimable blessing.

And how unaccountable is that philanthropy, which closes its eyes upon such a state of things as you have at home, and turns its blurred vision to our affairs beyond the Atlantic, meddling with matters which no way concern them—presiding, as you have lately done, at meetings to denounce the "iniquity of our laws" and "the atrocity of our practices," and to sympathize with infamous wretches imprisoned here for violating decrees promulgated both by God and man. Is this doing the work of "your Father which is in Heaven," or is it seeking only "that you may have glory of man?" Do you remember the denunciation of our Savior: "Wo unto you, Scribes and Pharisees; hypocrites! for ye make clean the outside of the cup and platter, but within they are full of extortion and excess."

But after all, supposing that everything you say of slavery be true, and its abolition a matter of the last necessity, how do you expect to effect emancipation, and what do you calculate will be the result of its accomplishment? As to the means to be used, the abolitionists, I believe, affect to differ—a large proportion of them pretending that their sole purpose is to apply "moral suasion" to the slaveholders themselves. As a matter of curiosity, I should like to know what their idea of this "moral suasion" is. Their discourses (yours is no exception) are all tirades—the exordium, argument and peroration, turning on the epithets, "tyrants," "thieves," "murderers," addressed to us. They revile us as "atrocious monsters," "violators of the laws of nature, God and man;" our homes the abode of every iniquity, our land a "brothel." We retort, that they are "incendiaries" and "assassins." Delightful argument! sweet, potent "moral suasion!" What slave has it freed—what proselyte can it ever make? But, if your course was wholly different—if you distilled nectar from your lips, and discoursed sweetest music, could you reasonably indulge the hope of accomplishing your object by such means? Nay, supposing that we were all convinced, and thought of slavery precisely as you do, at what era of "moral suasion" do you imagine you could prevail on us to give up a thousand millions of dollars in the value of our slaves, and a thousand millions of dollars more in the depreciation of our lands, in consequence of the want of laborers to cultivate them? Consider: were ever any people, civilized or savage, persuaded by any argument, human or divine, to surrender, voluntarily, two thousand millions of dollars? Would you think of asking five millions of Englishmen to contribute, either at once or gradually, four hundred and fifty millions of pounds sterling to the cause of philanthropy, even if the purpose to be accomplished was not of doubtful goodness? If you are

prepared to undertake such a scheme, try it at home. Collect your fund—purchase our slaves, and do with them as you like. Be all the glory yours, fairly and honestly won. But you see the absurdity of such an idea. Away, then, with your pretended "moral suasion." You know it is mere nonsense. The abolitionists have no faith in it themselves. Those who expect to accomplish anything, count on means altogether different. They aim, first, to alarm us; that failing, to compel us by force to emancipate our slaves, at our own risk and cost. To these purposes, they obviously direct all their energies. Our northern liberty men have endeavored to disseminate their destructive doctrines among our slaves, and excite them to insurrection. But we have put an end to that, and stricken terror into them. They dare not show their faces here. Then they declared they would dissolve the Union. Let them do it. The North would repent it far more than the South. We are not alarmed at the idea. We are well content to give up the Union sooner than sacrifice two thousand millions of dollars, and with them all the rights we prize. You may take it for granted, that it is impossible to persuade or alarm us into emancipation, or to making the first step toward it. Nothing, then, is left to try, but sheer force. If the abolitionists are prepared to expend their own treasure and shed their own blood as freely as they ask us to do ours, let them come. We do not court the conflict; but we will not and we cannot shrink from it. If they are not ready to go so far; if, as I expect, their philanthropy recoils from it; if they are looking only for *cheap* glory, let them turn their thoughts elsewhere, and leave us in peace. Be the sin, the danger and evils of slavery all our own. We compel, we ask, none to share them with us.

I am well aware that a notable scheme has been set on foot to achieve abolition, by making what is by courtesy called "free" labor so much cheaper than slave labor, as to force the abandonment of the latter. Though we are beginning to *manufacture with slaves*, I do not think you will attempt to pinch your operatives closer in Great Britain. You cannot curtail the rags with which they vainly attempt to cover their nakedness, nor reduce the porridge which barely, and not always, keeps those who have employment from perishing of famine. When you can do this, we will consider whether our slaves may not dispense with a pound or two of bacon per week, or a few garments annually. Your aim, however, is to cheapen labor in the tropics. The idea of doing this by exporting your "bold yeomanry" is, I presume, given up. Cromwell tried it when he *sold* the captured followers of Charles into *West Indian Slavery*, where they speedily found graves. Nor have your recent experiments on British and even Dutch constitutions succeded better. Have you still faith in carrying thither your Coolies from Hindoostan? Doubtless, that once wild robber race whose highest eulogium was, that they did not murder merely for the love of blood, have been tamed down, and are, perhaps, "keen for immigration;" for, since your civilization has reached it, plunder has grown scarce in Guzerat. But what is the result of the experiment thus far? Have the Coolies, ceasing to handle arms, learned to handle spades, and proved hardy and profitable laborers? On the contrary, broken in spirit and stricken with disease at home, the wretched vic-

tims whom you have hitherto kidnapped for a bounty, confined in depots, put under hatches and carried across the ocean, forced into "voluntary immigration," have done little but lie down and die on the *pseudo* soil of freedom. At the end of five years two-thirds, in some colonies a larger proportion, are no more! Humane and pious contrivance! To alleviate the fancied sufferings of the accursed posterity of Ham, you sacrifice, by a cruel death, two-thirds of the children of the blessed Shem, and demand the applause of Christians, the blessing of Heaven! If this "experiment" is to go on, in God's name try your hand upon the Thugs. That other species of "immigration" to which you are resorting, I will consider presently.

But what do you calculate will be the result of emancipation, by whatever means accomplished? You will probably point me, by way of answer, to the West Indies—doubtless to Antigua, the great boast of abolition. Admitting that it has succeeded there—which I will do for the sake of the argument—do you know the reason of it? The true and only causes of whatever success has attended it in Antigua are, that the population was before crowded, and all or nearly all the arable land in cultivation. The emancipated negroes could not, many of them, get away if they desired; and knew not where to go, in case they did. They had practically no alternative but to remain on the spot; and remaining, they must work on the terms of the proprietors, or perish—the strong arm of the mother country forbidding all hope of seizing the land for themselves. The proprietors, well knowing that they could thus command labor for the merest necessities of life, which was much cheaper than maintaining the non-effective as well as effective slaves in a style which decency and interest, if not humanity, required, willingly accepted half their value, and at once realized far more than the interest on the other half in the diminution of their expenses, and the reduced comforts of the *freemen*. One of your most illustrious judges, who was also a profound and philosophical historian, has said "that villeinage was not abolished, but went into decay in England." This was the process. This has been the process wherever (the name of) villeinage or slavery has been successfully abandoned. Slavery in fact "went into decay" in Antigua. I have admitted that under similar circumstances it might profitably cease here—that is, profitably to the individual proprietors. Give me half the value of my slaves, and compel them to remain and labor on my plantation at ten to eleven cents a day, as they do in Antigua, supporting themselves and families, and you shall have them to-morrow, and if you like dub them "free." Not to stickle, I would surrender them without price. No—I recall my words: my humanity revolts at the idea. I am attached to my slaves, and would not have art or part in reducing them to such a condition. I deny, however, that Antigua, as a community, is or ever will be *as prosperous*, under present circumstances, as she was before abolition, though fully ripe for it. The fact is well known. The reason is that the African, if not a distinct, is an inferior race, and never will effect, as it never has effected, as much in any other condition as in that of slavery.

I know of no *slaveholder* who has visited the West Indies since slavery was abolished, and published *his* views of it. All our facts and opinions come through the friends of the experiment, or at least

those not opposed to it. Taking these, even without allowance, to be true as stated, I do not see where the abolitionists find causes for exultation. The tables of exports, which are the best evidences of the condition of a people, exhibit a woful falling off—excused, it is true, by unprecedented droughts and hurricanes, to which their free labor seems unaccountably more subject than slave labor used to be. I will not go into detail. It is well known that a large proportion of British legislation and expenditure, and that proportion still constantly increasing, is most anxiously devoted to repairing the monstrous error of emancipation. You are actually galvanizing your expiring colonies. The truth, deduced from all the facts, was thus pithily stated by the London Quarterly Review, as long ago as 1840: "None of the benefits anticipated by mistaken good intentions have been realized, while every evil wished for by knaves and forseen by the wise has been painfully verified. The wild rashness of fanaticism has made the emancipation of the slaves equivalent to the loss of one-half of the West Indies, and yet put back the chance of negro civilization."—(*Art. Ld. Dudley's Letters.*) Such are the *real fruits* of your never-to-be-too-much-glorified abolition, and the valuable dividend of your twenty millions of pounds sterling invested therein.

If any further proof was wanted of the utter and well known, though not yet openly avowed, failure of West India emancipation, it would be furnished by the startling fact, that THE AFRICAN SLAVE TRADE HAS BEEN ACTUALLY REVIVED UNDER THE AUSPICES AND PROTECTION OF THE BRITISH GOVERNMENT. Under the auspicious guise of "immigration" they are replenishing those islands with slaves from the coast of Africa. Your colony of Sierra Leone, founded on that coast to prevent the slave trade, and peopled by the by in the first instance by negroes stolen from these States during the Revolutionary war, is the depot where captives taken from slavers by your armed vessels are transported. I might say returned, since nearly half the Africans carried across the Atlantic are understood to be embarked in this vicinity. The wretched survivors, who are there set at liberty, are immediately seduced to "immigrate" to the West Indies. The business is systematically carried on by black "delegates," sent expressly from the West Indies, where, on arrival, the "immigrants" are *sold into slavery* for twenty-one years, under conditions ridiculously trivial and wickedly void, since few or none will ever be able to derive any advantage from them. The whole prime of life thus passes in bondage, it is contemplated, and doubtless it will be carried into effect, to turn them out in their old age to shift for themselves, and to supply their places with fresh and vigorous "immigrants." Was ever a system of slavery so barbarous devised before? Can you think of comparing it with ours? Even your own religious missionaries at Sierra Leone denounce it "as worse than the slave state in Africa." And your black delegates, fearful of the influence of these missionaries, as well as on account of the inadequate supply of captives, are now preparing to procure the able bodied and comparatively industrious Kroomen of the interior, by *purchasing from their head men* the privilege of inveigling them to the West India market! So ends the magnificent farce—perhaps I should say tragedy—of West India abolition! I will not harrow your feelings by asking you

to review the labors of your life and tell me what you and your brother enthusiasts have accomplished for "injured Africa," but while agreeing with Lord Stowell, that "villeinage decayed," and admitting that slavery might do so also, I think I am fully justified by passed and passing events in saying, as Mr. *Grosvenor* said of the slave trade, that its *abolition* is "impossible."

You are greatly mistaken, however, if you think that the consequences of emancipation here, would be similar and no more injurious than those which followed from it in your little sea-girt West India islands, where nearly all were blacks. The system of slavery is not in "decay" with us. It flourishes in full and growing vigor. Our country is boundless in extent. Dotted here and there with villages and fields, it is for the most part covered with immense forests and swamps of almost unknown size. In such a country, with a people so restless as ours, communicating of course some of that spirit to their domestics, can you conceive that anything short of the power of the master over the slave, could confine the African race, notoriously idle and improvident, to labor on our plantations? Break this bond, but for a day, and these plantations will be solitudes. The negro loves change, novelty and sensual excitements of all kinds, *when awake*. "Reason and order," of which Mr. Wilberforce said "liberty was the child," do not characterize him. Released from his present obligations his first impulse would be to go somewhere. And here no natural boundaries would restrain him. At first they would all seek the towns, and rapidly accumulate in squalid groups upon their outskirts. Driven thence by the "armed police" which would immediately spring into existence, they would scatter in all directions. Some bodies of them might wander toward the "free" States, or to the western wilderness, marking their tracks by their depredations and their corpses. Many would roam wild in our "big woods." Many more would seek the recesses of our swamps for secure covert. Few, very few, of them could be prevailed on to do a stroke of work, none to labor continuously, while a head of cattle, sheep or swine, could be found in our ranges, or an ear of corn nodded in our abandoned fields. These exhausted, our folds and poultry yards, barns and store-houses, would become their prey. Finally, our scattered dwellings would be plundered, perhaps fired and the inmates murdered. How long do you suppose that we could bear these things? How long would it be before we should sleep with rifles at our bedsides, and never move without one in our hands? This work once begun, let the story of our British ancestors and the aborigines of this country tell the sequel. Far more rapid, however, would be the catastrophe. "Ere many moons went by," the African race would be exterminated, or reduced again to slavery, their ranks recruited, after our example, by fresh "emigrants" from their fatherland.

Is timely preparation and gradual emancipation suggested to avert these horrible consequences? I thought your experience in the West Indies had at least done so much as to explode that idea. If it failed there, much more would it fail here, where the two races, approximating to equality in numbers, are daily and hourly in the closest contact. Give room for but a single spark of real jealousy to be kindled

between them, and the explosion would be instantaneous and universal. It is the most fatal of all fallacies to suppose that these two races can exist together, after any length of time or any process of preparation, on terms at all approaching to equality. Of this, both of them are finally and fixedly convinced. They differ essentially, in all the leading traits which characterize the varieties of the human species, and color draws an indelible and insuperable line of separation between them. Every scheme founded upon the idea that they can remain together on the same soil, beyond the briefest period, in any other relation than precisely that which now subsists between them, is not only preposterous, but fraught with deepest danger. If there was no alternative but to try the "experiment" here, reason and humanity dictate that the sufferings of "gradualism" should be saved and the catastrophe of "immediate abolition," enacted as rapidly as possible. Are you impatient for the performance to commence? Do you long to gloat over the scenes I have suggested, but could not hold the pen to portray? In your long life many such have passed under your review. You know that *they* are not "*impossible*." Can they be to your taste? Do you believe that in laboring to bring them about, the abolitionists are doing the will of God? No! God is not there. It is the work of Satan. The arch-fiend, under specious guises, has found his way into their souls, and with false appeals to philanthropy, and foul insinuations to ambition, instigates them to rush headlong to the accomplishment of his diabolical designs.

We live in a wonderful age. The events of the last three-quarters of a century appear to have revolutionized the human mind. Enterprise and ambition are only limited in their purposes by the horizon of the imagination. It is the transcendental era. In philosophy, religion, government, science, arts, commerce, nothing that has been is to be allowed to be. Conservatism in any form is scoffed at. The slightest taint of it is fatal. Where will all this end? If you can tolerate one ancient maxim, let it be that the best criterion of the future is the past. That, if anything, will give a clue. And, looking back only through your time, what was the earliest feat of this same transcendentalism? The rays of the new moral Drummond Light were first concentrated to a focus at Paris, to illuminate the Universe. In a twinkling it consumed the political, religious, and social systems of France. It could not be extinguished there until literally drowned in blood. And then from its ashes arose that supernatural man, who, for twenty years kept affrighted Europe in convulsions. Since that time its scattered beams, refracted by broader surfaces, have nevertheless continued to scathe wherever they have fallen. What political structure, what religious creed, but has felt the galvanic shock, and even now trembles to its foundations? Mankind, still horror-sticken by the catastrophe of France, have shrunk from rash experiments upon social systems. But they have been practicing in the East, around the Mediterranean and through the West India islands. And growing confident, a portion of them seem desperately bent on kindling the all-devouring flame in the bosom of our land. Let it once again blaze up to heaven and another cycle of blood and devastation will dawn upon the world. For our own sake, and for the sake of those infatuated men who

are madly driving on the conflagration; for the sake of human nature, we are called on to strain every nerve to arrest it. And be assured our efforts will be bounded only with our being. Nor do I doubt that five millions of people, brave, intelligent, united, and prepared to hazard everything, will, in such a cause, with the blessing of God, sustain themselves. At all events, come what may, it is ours to meet it.

We are well aware of the light estimation in which the abolitionists, and those who are taught by them, profess to hold us. We have seen the attempt of a portion of the Free Church of Scotland to reject our alms, on the ground that we are "slave drivers," after sending missionaries to solicit them. And we have seen Mr. O'Connell, the "irresponsible master" of millions of ragged serfs, from whom, poverty stricken as they are, he contrives to wring a splendid privy purse, throw back with contumely the "tribute" of his own countrymen from this land of "miscreants." These people may exhaust their slang and make blackguards of themselves, but they cannot defile us. And as for the suggestion to exclude slaveholders from your London clubs, we scout it. Many of us, indeed, do go to London, and we have seen your breed of gawky Lords, both there and here, but it never entered into our conceptions to look on them as better than ourselves. Nor can we be annoyed by the ridiculous airs of such upstarts as your O'Connels, Ritchies, Macaulays, and the like. The American slaveholders, collectively or individually, ask no favor of any man or race who tread the earth. In none of the attributes of men, mental or physical, do they acknowledge or fear superiority elsewhere. They stand in the broadest light of the knowledge, civilization and improvement of the age, as much favored of Heaven as any of the sons of Adam. Exacting nothing undue, they yield nothing but justice and courtesy, even to royal blood. They cannot be flattered, duped, nor bullied out of their rights or their propriety. They smile with contempt at scurrility and vaporing beyond the seas, and they turn their backs upon it where it is "irresponsible;" but insolence that ventures to look them in the face, will never fail to be chastised.

I think I may trust you will not regard this letter as intrusive. I should never have entertained an idea of writing it, had you not opened the correspondence. If you think anything in it harsh, review your own—which I regret that I lost soon after it was received—and you will probably find that you have taken your revenge beforehand. If you have not, transfer an equitable share of what you deem severe to the account of the abolitionists at large. They have accumulated against the slaveholders a balance of invective which, with all our efforts, we shall not be able to liquidate much short of the era in which your national debt will be paid. At all events, I have no desire to offend you personally, and, with the best wishes for your continued health, I have the honor to be,

ART. VI.—DOMESTIC INDUSTRY—MANUFACTURES AT THE SOUTH.

INACTION AT THE SOUTH; SOUTHERN ABSENTEEISM; CONDITION OF SOUTH CAROLINA; ADVANTAGES OF MANUFACTURING ESTALISHMENTS; CHARLESTON; NORTHERN FACTORIES AND FACTORY SYSTEMS; STATISTICS OF COTTON MANUFACTURES, &c.

[SEVERAL years ago William Gregg, Esq., of South Carolina, published a series of essays upon the industry of the South, which afterward appeared in pamphlet form. We expressed at the time our objection to the manner in which Mr. Gregg saw fit to introduce some of our most distinguished political men, although the general views of the author interested and instructed us. We have been lately re-perusing the essays, and at this period, when the South would seem to be aroused in every quarter with regard to home or domestic manufactures, their republication in the Review may subserve a useful purpose. We therefore offer them to the reader for preservation in this and our next number, omitting some parts which relate more particularly to Carolina, and some again now unimportant. Since Mr. Gregg wrote, the South has greatly improved in many respects, and his picture of South Carolina and Charleston, always highly colored, varies at the present time, we are gratified to state, very far from the reality.—ED.]

IT must be apparent to all men of discernment that, whether a tariff for protection is continued or not, our only safety, in this State, lies in a change of our industrial pursuits. The United States is destined to be a great manufacturing country, and a few years, even without a protective tariff, will place her on a footing with, if not ahead of, the most skillful nations, and all who have any knowledge of the subject admit that South Carolina and Georgia possess advantages, which only need to be fostered to lead to success in cotton manufacturing. We already see North Carolina on the one side, and Georgia on the other, making rapid strides in these pursuits, and shall we stand with our arms folded, crying save us from our oppressors, until we are awakened to compete with those neighboring States, skilled in the arts! It is only necessary for us to turn our faces to the South-west to behold the people who are to take the very bread from our mouths, if we continue to place our reliance on the culture of cotton, and the time is at hand when we shall set about, in good earnest, changing our pursuits. It would indeed be well for us, if we were not so refined in politics—if the talent, which has been, for years past, and is now engaged in embittering our indolent people against their industrious neighbors of the North, had been with the same zeal engaged in promoting domestic industry and the encouragement of the mechanical arts. If so, we should now see a far different state of things in South Carolina. It is only necessary to travel over the sterile mountains of Connecticut, Massachusetts, Vermont, and New Hampshire, to learn the true secret of our difficulties, to learn the difference between indolence and industry, extravagance and economy. We there see the scenery which would take the place of our unpainted mansions; dilapidated cabins with mud chimneys and no windows; broken down rail fences; fields overgrown with weeds, and thrown away, half exhausted, to be taken up by pine thickets; beef cattle unprotected from the inclemency of winter, and so poor as barely to preserve life. In fact, every evidence that can possibly be exhibited to satisfy a stranger, that we are, to say the least, destitute of every feature which characterizes an industrious people, may be seen among us. Laying aside the vexed question of a tariff for protection, which I don't pretend to advocate, I cannot see how we are to look with a reasonable hope for relief, even from its abandonment, without a total change of our habits. My recent visit to the northern States has fully satisfied me that the true secret of our difficulties, lies in the want of energy on the part of

our capitalists, and ignorance and laziness on the part of those who *ought* to labor. We need never look for thrift while we permit our immense timber forests, granite quarries and mines, to lie idle, and supply ourselves with hewn granite, pine boards, lath and shingles, &c., furished by the *lazy* dogs at the North—ah, worse than this, we see our back country farmers, many of whom are too lazy to mend a broken gate, or repair the fences to protect their crops from the neighboring stock, actually supplied with their ax, hoe and broom handles, pitchforks, rakes, &c., by the *indolent* mountaineers of New Hampshire and Massachusetts. The time was, when every old woman in the country had her gourd, from which the country gardens were supplied with seeds. We now find it more convenient to permit this duty to devolve on our careful friends, the yankees. Even our boat-oars, and handspikes for rolling logs, are furnished, ready made, to our hand, and what jim-crack can possibly be invented of which we are not the purchasers? These are the drains which are impoverishing the South—these are the true sources of all our difficulties. Need I add, to further exemplify our excessive indolence, that the Charleston market is supplied with fish and wild game by northern men, who come out here, as regularly as the winter comes, for this purpose, and from our own waters and forests often realize, in the course of one winter, a sufficiency to purchase a small farm in New England.

A change in our habits and industrial pursuits is a far greater desideratum than any change in the laws of our government, which the most clamorous opponents of the tariff could devise. He who has possessed himself of the notion that we have the industry, and are wronged out of our hard earnings by a lazy set of scheming yankees, to get rid of this delusion, needs only seat himself on the Charleston wharves for a few days, and behold ship after ship arrive, laden down with the various articles produced by yankee industry. Let him behold these vessels discharging their cargoes and count the cost to South Carolina. From the month of September till May, our wharves are crowded, not only with the articles manufactured by the handicraftsmen of the North, but vast quantities of dairy articles, and all kinds of culinary vegetables, which are far better adapted to the soil of South Carolina, than to those places where they are grown. Here may be seen a picture that ought to bring a blush on the face of the statesman who would advocate legislative resistance as the remedy for our State. It ought to make every citizen who feels an interest in his country, ashamed to visit the clothing stores of Charleston, and see the vast exhibition of ready made clothing, manufactured mostly by the women of Philadelphia, New York, Boston, and other northern cities, to the detriment and starvation of our own countrywomen, hundreds of whom may be found in our own good city in wretched poverty, unable to procure work by which they would be glad to earn a decent living.

One would not suppose that the South was laboring under embarrassment, if he were to see the crowds that are continually thronging the northern cities and places of amusement. I have heard the number variously estimated at from forty to sixty thousand in one summer. Taking the lower estimate of the two, and allowing for the expenses of each individual $300 (and this is certainly below the mark), we shall

have $12,000,000 transferred yearly from the South to the North, by absenteeism. As bad off as we know South Carolina to be, yet we are certain she furnishes her full *quota* of this immense sum. Go where you may, in the city or out of it—in what direction you please, and you can scarcely set your foot into a railroad car, in which you will not find some half dozen persons from this State. The register book of every fashionable hotel that I visited, exhibited a large share of names, with South Carolina attached to them. Nor are our people remarkable for their economical habits, as the bar-keepers will inform you, that their wine bills exhibit liberality even to wastefulness. You may see them too, flying around cities, in the finest and most costly equipages that money can procure, and while a *millionaire* of New York is content to ride in an *omnibus*, from Wall street to the upper part of the city, many of these persons, not worth ten thousand dollars, would be ashamed to be seen in such vehicles. With tailors, milliners, mantua-makers, &c, these persons are considered to have gold without measure, and it is a perfect *windfall* for them to meet occasionally with one. You cannot step into a furniture store, carpet warehouse, or dry goods establishment, where fine silks and laces are sold, without meeting persons from our State, making lavish expenditures and purchasing thousands of articles of wearing apparel, which are not worn until they return home, where the same articles can be obtained in the stores of our own tradesmen, at cheaper rates than those at which they were purchased at the North.

At one tailor's establishment in Boston, I was informed by the proprietor, that his sales for the last year, to Charleston alone, amounted to upwards of $50,000, and this year he expected they would reach $80,000. How much trade others in Boston in the same business receive from Charleston, and what amount falls to the lot of the fashionable clothiers of New York and Philadelphia, cannot be estimated, but there is little doubt, that the amount would be found quite sufficient to support three or four fashionable establishments in our own city.

Let South Carolina be true to herself, let her go to work with a determination to resist the northern tariffites, by resolving not to purchase or use their articles of manufacture. This will cure the evil, and bring us to the point we desire to arrive at, by an easier and much shorter road than legislative action. Limited as our manufactures are in South Carolina, we can now more than supply the State with coarse cotton fabrics. Many of the fabrics now manufactured here are exported to New York, and, for aught I know, find their way to the East Indies. We can most assuredly make our own ax-handles, raise our own cabbages, beets, potatoes and onions; our boys, as in olden times, may be taught to make their own toy-wagons and wheel-barrows; our wives and sisters can hem our handkerchiefs and bake our bread. If we continue in our present habits, it would not be unreasonable to predict, that, when the Raleigh Railroad is extended to Columbia, our members of the Legislature will be fed on Yankee bakers' bread. Pardon me for repeating the call on South Carolina to go to work. God speed the day when her politicians will be exhorting the people to domestic industry, instead of State resistance; when our Clay clubs and Democratic associations will be turned into societies for the advancement of scientific agriculture and the promotion of mechanic art; when our capitalists

will be found following the example of Boston and other northern cities, in making such investments of their capital as will give employment to the poor, and make them producers, instead of burthensome consumers; when our city council may become so enlightened as to see the propriety of following the example of every other city in the civilized world, in removing the restrictions on the use of the steam-engine, now indispensable in every department of manufacturing, and to be found by hundreds, from the cellars to the garrets of houses, in the most densely peopled parts of Philadelphia, New York, Boston, and other cities.

We want no laws for the protection of those that embark in the manufacture of such cotton fabrics as we propose to make in South Carolia; nor does it follow, as a matter of course, that because we advocate a system which will diversify the pursuits of our people, and enable them to export a portion of one of our valuable staples, in a manufactured state, that we wish manufactures to predominate over other employments. All must admit that, to a certain extent, the system we advocate could not operate otherwise than to produce beneficial results, by regulating prices—by insuring a certain reward to labor—a profitable income to capital, and by infusing health, vigor and durability into every department of industry. It is a well established fact, that capital employed in this State, in the culture of cotton, does not, with ordinary management, yield more than 3 or 4, and in some instances, 2 per cent.; this being the only mode of employing our capital, except in the culture of rice, how can we expect to retain men of *capital* and *enterprise* among us? Those having the first, must be wholly wanting in the last—or they must possess an extraordinary attachment to the land of their nativity, to remain with us under such a state of affairs.

With this fact before us, is it surprising that South Carolina should remain stationary in population? And let it be remembered that the same cause which has produced this result, will continue to operate hurtfully, in the same ratio, as the price of our great staple declines. In all probability, an additional outlet will soon be opened to drain us of our people and our capital. How much this is to take from us, remains to be seen. Unless we betake ourselves to some more profitable employment than the planting of cotton, what is to prevent our most enterprising planters from moving, with their negro capital, to the South-west? What is to keep our business men and moneyed capital in South Carolina? Capital will find its way to places that afford the greatest remuneration, and, in leaving our State, it will carry with it its enterprising owner. These are truly unpleasant reflections, but they force themselves upon us. Who can look forward to the future destiny of our State, persisting, as she does, with such pertinacity, in the exclusive and exhausting system of agriculture, without dark forebodings.? If we listen much longer to the *ultras* in agriculture and *croakers* against mechanical enterprise, it is feared that they will be the only class left, to stir up the indolent sleepers that are indisposed to action, and that are willing to let each day provide for itself.

Since the discovery that cotton would mature in South Carolina, she has reaped a golden harvest; but it is feared it has proved a curse rather than a blessing, and I believe that she would at this day be in a far

better condition, had the discovery never been made. Cotton has been to South Carolina what the mines of Mexico were to Spain—it has produced us such an abundant supply of all the luxuries and elegances of life, with so little exertion on our part, that we have become enervated, unfitted for other and more laborious pursuits, and unprepared to meet the state of things, which sooner or later must come about. Is it out of place here to predict, that the day is not far distant, yea, is close at hand, when we shall find that we can no longer *live* by that, which has heretofore yielded us, not only a bountiful and sumptuous living, at home, but has furnished the means for carrying thousands and tens of thousands of our citizens abroad, to squander their gold in other countries—that we have wasted the fruits of a rich, virgin soil, in ease and luxury—that those who have practiced sufficient industry and economy to accumulate capital, have left, or are leaving us, to populate other States.

We shall indeed soon be awakened to look about us for other pursuits, and we shall find that our soil has to be renovated—our houses and workshops have to be built—our roads and bridges have to be made, all of which ought to have been done with the rich treasures that have been transferred to other States. Let us begin at once, before it is too late, to bring about a change in our industrial pursuits—let us set about it before the capital and enterprise of our State has entirely left us—let croakers against enterprise be silenced—let the working men of our State who have, by their industry, accumulated capital, turn out and give a practical lesson to our political leaders, that are opposed to this scheme.

If we look at this subject in the abstract only, we shall very naturally come to the above conclusions; it is, however, often the case, that practical results contradict the plainest abstract propositions, and it is hoped, that in the course of these remarks, it will be proved to the satisfaction of at least some of our men of capital and enterprise, that the spinning of cotton may be undertaken with a certainty of success, in the two Carolinas and Georgia, and that the failures which have taken place, ought not to deter others from embarking in the business, they being the result of unpardonable ignorance, and just such management on the part of those interested, as would prove ruinous in any other undertaking.

Surely there is nothing in cotton spinning that can poison the atmosphere of South Carolina. Why not spin as well as plant cotton? The same hand that attends the gin may work a carding machine. The girl who is capable of making thread on a country spinning wheel, may do the same, with equal facility, on the *throstle frame.* The woman who can warp the thread and weave it, on a common loom, may soon be taught to do the same on the *power loom;* and so with all the departments, from the raw cotton to the cloth, experience has proved that any child, white or black, of ordinary capacity, may be taught, in a few weeks, to be expert in any part of a cotton factory; moreover, all overseers who have experience in the matter, give a decided preference to blacks as operatives.*

* Montgomery, an English manufacturer, after a residence of eight years in this country (in his Treatise on the Cotton Manufactures of the U. States compared with Great Britain), says: "If the experiment of slave labor succeed in

There are many reasons why blacks should be preferred; two of which may be adduced. First—You are not under the necessity of educating them, and have, therefore, their uninterrupted services from the age of eight years. The second is, that when you have your mill filled with expert hands, you are not subjected to the change which is constantly taking place with whites. In the northern States, these are inconveniences of no small moment. In Massachusetts, the laws forbid the employment of persons under *fourteen* years of age, unless the employer can show a certificate from a school-master, stating that the individual has been at school three months in the year. The teaching of new hands and the constant change of operatives, are evils seriously felt; and in the summer season, when it is desirable to ramble in the country, many eastern factories have one-third of their machinery standing idle for want of hands. While on this part of my subject, I would ask, shall we stop at the effort to prove the capacity of blacks for manufacturing? Shall we pass unnoticed the thousands of poor, ignorant, degraded white people among us, who, in this land of plenty, live in comparative nakedness and starvation? Many a one is reared in *proud* South Carolina, from birth to manhood, who has never passed a month, in which he has not some part of the time, been stinted for meat. Many a mother is there, who will tell you that her children are but scantily supplied with bread, and much more scantily with meat, and if they be clad with comfortable raiment, it is at the expense of their scanty allowance of food. These may be startling statements, but they are nevertheless true, and if not believed in Charleston, the members of our Legislature, who have traversed the State, in electioneering campaigns, can attest their truth.

It is only necessary to build a manufacturing village of shanties, in a healthy location, in any part of the State, to have crowds of these poor people around you, seeking employment at half the compensation given to operatives at the North. It is indeed painful to be brought in contact with such ignorance and degradation; but on the other hand, it is pleasant to witness the change, which soon takes place in the condition of those who obtain employment. The emaciated, pale-faced children, soon assume the appearance of robust health, and their tattered garments are exchanged for those suited to a better condition; if you visit their dwellings, you will find their tables supplied with wholesome food; and on the Sabbath, when the females turn out in their gay colored gowns, you will imagine yourself surrounded by groups of city belles. How easy would it be for the proprietors of such establishments, with only a small share of philanthropy, to make good use of the school-fund in ameliorating the condition of this class of our population, now but little elevated above the Indian of the forest. The cause of this degradation and poverty will hereafter be noticed; it is an interest-

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factories, as is confidently expected, the cost of manufacturing the cotton into cloth will be much less there [U. S.] than any where else, so that it will not be surprising if, in the course of a few years, those Southern factories should manufacture coarse cotton goods, and sell them in the public markets, at one-half the price, at which they are manufactured in England. There are several cotton factories in Tennessee operated entirely by *slave* labor, there not being a white man in the mill but the superintendent, and according to a letter lately received from the superintendent of one of these factories, it appears that the blacks do their work in every respect as well as could be expected from whites."

ing subject, and one that ought to engage the attention of every philanthropist and Christian. It is, perhaps, not generally known, that there are *twenty-nine thousand* white persons in this State, above the age of twelve years, who can neither read nor write—this is about one in every five of the white population.

That we are behind the age in agriculture, the mechanic arts, industry and enterprise, is apparent to all who pass through our State; our good city of Charleston speaks a language on this subject not to be mistaken; she has lost 1000 of her population, according to the census of 1840, while her sister cities have doubled and quadrupled theirs; she has had, for thirteen years, the advantage of the South Carolina Railroad, which, under ordinary circumstances, should have doubled the number of her population. How does she now stand? Precisely where she stood twenty years ago, and, but for the two conflagrations which swept off many of her old houses, she would present at this moment the same appearance that she did in 1824. Where is the city in this age of improvement, except Charleston, that a book-binder, or job-printer is prohibited the use of a small steam-engine, to enable him to carry on his business with more facility, and to cheapen the price of those articles that we are purchasing from other cities more liberal to their artizans? and where a carpenter is not allowed the use of the same, to turn a circular saw or drive a mortising chisel, to enable him to compete with others in supplying us with ready made doors, blinds, sashes, shutters, &c? Even the boxes in which our merchandise is packed, are made in the city of New York, by steam-power, and brought to our very doors. The book-binder, tanner, currier, hatter, wagon-maker, carriage-maker, carpenter, turner, tinner, and, in fact, persons engaged in every branch of mechanism, find steam-power indispensable; and knowing, as we do, that they are unrestricted in its use in other cities, why are our mechanics forbid to use it in this city? There is a strong disposition manifested by this class of our citizens to elevate and improve their several trades, and if they are properly encouraged, there is no doubt that a great change would soon be brought about; but the labor of negroes and blind horses can never supply the place of *steam*, and this power is withheld lest the smoke of an engine should disturb the delicate nerves of an agriculturist; or the noise of the mechanic's hammer should break in upon the slumber of a real estate holder, or importing merchant, while he is indulging in fanciful dreams, or building on paper, *the Queen City of the South*—the *paragon* of the age. No reflections on the members of the city council are here intended—they are, no doubt, fairly representing public opinion on this subject; some of that body are known to be in favor of a modification of these restrictions, which certainly are behind the age, and a reproach to our city. Our mechanics ought to rise in their strength, and procure the signature of every liberal minded man, to a *petition* to the city authorities, asking that they may be placed on the same footing, in this respect, as the tradesmen of other cities.

These restrictions are but in character with many other things; and while we are on this subject, permit me to ask, whether any other town of the same size, would have allowed the greatest work of the age—the Hamburg Railroad—to come into the city and find its terminus in a mud

hole, scarcely passable in the winter season for a family carriage, much less for a loaded wagon. It cannot be denied that it is a disgrace to the City and Neck, that this great work, which will immortalize its projectors, should not have been met by a stone road leading from it to our wharves. That the hundreds of thousands of bales of produce and merchandise that have entered into, and departed from our city, during the last thirteen years, should have been dragged through the sand and mud of King and Meeting streets, demonstrates a fact, about which there can be no mistake—the hand of enterprise is not among us. And shall we continue in our downward course? Is it not time that a warning voice were raised, to proclaim to the good people of Charleston, that in these times of enterprise, no city need expect to thrive that does not encourage and foster the mechanic arts and artizans? It is this class of men that gives life, strength and vigor to all branches of trade, and every department of life, and if they were properly encouraged, our city authorities would no longer have to resort to dram shop licences for revenue; money would soon be found to pay her debts and pave her streets. Let our city council begin, by removing the restrictions on the use of the steam-engine. Who would not rather have an occasional whiff of smoke from a steam-engine, than the scent of an odious grog shop? The former a benefit, the latter a curse to the community. So far as fire risks are concerned, it would be safer to have three engines, than one such magazine of mischief and corruption, licensed by our city council, under the title of "retailers of ardent spirits."

Need any thing be said about the amount of capital required for embarking in these pursuits? It is only necessary to revert to the fact, that lands and negroes pay but *three* per cent. when engaged in the culture of cotton, and to name the price of 5 and 6 per cent. State stocks. Need a word be said as to the men who are to carry on these enterprises? It is only necessary to point you to the bone and sinew that are leaving our city and State, to enrich and populate others. Any one that has visited Mississippi and Alabama, can soon point out the *maelstrom* that has swallowed up so much of the capital and enterprise of South Carolina.

The period is fast approaching in South Carolina, which shall produce a great change in these matters. Many persons are now looking to the subject of manufactures with intense interest, and it is believed that many men of capital would at once embark in this business, could this field for profitable enterprise be laid open before our wealthy business men of Charleston, a host of whom can be found, with nerves that never tire, and with as much forecast and shrewdness as the merchant manufacturers of Boston, and these latter gentlemen see that it is only necessary that Georgia and the two Carolinas shall engage in the manufactory of *coarse* cotton fabrics, in order to monopolize the trade in these articles. What is to prevent such a result? Have we not the raw material on the spot, thus saving the freight of a double transportation? Is not labor cheaper with us than with our northern brethren? and if we believe that they are reaping such golden harvests, what shall prevent our participation in the spoils? Let the ball be set in motion, then will our miserably poor white population at once rise from their ignorance and degradation, and we shall no longer hear the complaint, that planting capital will pay no more than 3 per cent. The commerce

and trade of our State would at once receive a fresh impulse—our city would become a mart for domestic goods—railroad stocks would increase in value—our city would disrobe herself of her old fashioned, rusty, tattered and torn garments, to be clad in the fashionable clothing of the day—her whitened walls and improved suburbs would remind the stranger as he passed through, that the hand of industry and enterprise was at work among us. Our retired merchants would find it no longer necessary or desirable to invest their capital, or look for rural retirement in other States. They would find that we have in our up-country, within a few hours ride of Charleston, all the advantages that we can desire for such purposes; and, besides spending our money among ourselves, they would also find that there is no better country for the profitable employment of capital, or rural retirement, than in our own State.

In New England there are two distinct systems of manufacturing pursued. The Massachusetts and New Hampshire establishments are on an extensive scale, and are almost universally owned by joint-stock companies, composed principally of the merchants of Boston. They are careful to employ the best talents the country affords, and have matters so systematically arranged that (as will be hereafter shown) there is no possibility of failure, even to a joint-stock company, unless the business becomes so profitless as to ruin the whole country. Mills owned, or under the influence of Boston capitalists—such as those in Cabotville, Chickopee, Waltham, Lowell, Nashua, Jackson, Manchester, and other places—generally contain about 6,000 spindles each, some 10,000, and recently, others are being erected, to contain 20 and 25,000. Each company has an agent, whose office is in Boston, and another at the factory; the latter has direct charge of the mill, or mills, as the case may be—for there are frequently two, three, and even four factories owned by the same company, and in the same inclosure. Each factory has an overseer for the carding department, who, generally speaking, is skilled in this department only; also a spinner, a dresser, a weaver, and a machinist. These men have no charge except their particular departments; they hire their own hands (being under certain restrictions), make certain repairs, and direct others to be made by the machinist, and are responsible to the agent for the manufacture of a given number of pounds of cotton per day, at a cost of a given number of mills per pound. For instance, every Saturday night the agent receives a report showing the number of lbs. raw cotton passed into the carding room, and the number of lbs. of cloth taken from the weaving room—the *carder* shows by his *pay list* that he has carded the same for 6 mills per lb.—the *spinner* that he has spun it for 5 mills per lb.—the *dresser* that he has warped, beamed and dressed it for 3 mills—and the *weaver* that it has been woven for 8 mills, and baled for 1 mill per lb. At the end of the month the agent at the factory makes out a statement for the agent in Boston, showing the number of hands employed at the mill, male and female—the average wages paid—the number of lbs. of raw cotton used—the number of yards and pounds of cloth produced and forwarded to their commission merchant—and the entire cost of manufacturing and delivering the cloth at Boston, giving the items as above stated. These statements from the various establishments are compar-

ed in Boston; in fact, the proprietors club together, compile them, and place a book in the hands of each agent for reference, so that they are constantly apprised of what others are doing; and each carder, spinner or weaver, knows the minimum cost at which his particular department has been accomplished. The general result proves to the company the fitness of their agent. The cheapness with which any particular department is performed is a test of the skill and industry of the subaltern in charge of the same. Knowing the cost of the raw material—the quantity of waste—the precise cost of producing cloth—and its worth in the market—the manufacturers are at once placed in a position not to sink money, unless they choose to do so, in times of great embarrassment, as a matter of charity to their hands. These Boston establishments (for so I may call them) are all very similar. The *dead* spindle for warp, as well as for filling, is universal; and each factory is erected for a particular purpose, and confined exclusively to it. For instance—some mills have their machinery adapted to the manufacture of *osnaburgs*, and can make nothing else—some are adapted to, and are run exclusively on *brown sheetings* 37 inches wide—some on 3-4 *sheetings*—some on *drillings*, and others on print cloths. They are run for years on the same thing, and as the proprietors never think of changing, the consequence is, that their hands, having but one operation to perform, become so completely drilled in it, that they are run at a speed incredible to one who has never witnessed it.

In Rhode Island things are very different. Providence is the center of radiation for manufacturing knowledge. In cotton manufacturing, all look to her as the mother of manufactures, as the seat of knowledge in this art. In this State, although there are many joint-stock companies, yet individual establishments predominate. There are many large establishments owned by persons reared behind the spinning-jenney—others owned by capitalists and rented to practical manufacturers. Many mills fitted with water-wheels, are built by persons owning water-power, and rented to others owning machinery. Every pound of water-power is already employed, steam-power is getting into use, and manufacturing may be said to be the business of Rhode Island. Wages are lower here than in Massachusetts, and economy is more generally practiced. They make *fine* goods and add a far greater value to each lb. of cotton, realizing in *quality*, by skill and close application, what the Massachusetts people do in *quantity*, by their coarse fabrics. In Rhode Island, English machinery is often used, the *live* spindle for *warp* and the *mule* for *filling*, this being, doubtless, the best kind of machinery for fine goods and skillful operatives; but it is evident that the Massachusetts machinery is the sort that should be introduced among us, and that the system pursued in that State is the one best adapted to our habits and institutions. Cotton manufacturing will not, probably, be speedily introduced into this State, unless our business men of capital take hold of it. Merchants and retired men of capital may erect factories, and work them with white hands, or purchase blacks for the purpose—our wealthy planters may engage in this business and turn their young negroes in for workers, but it will be long before the southern States shall have a set of manufacturers similar to those in Rhode Island; they must grow up among us, as engine-makers and railroad engineers have done.

I will now give a statement of the cost of manufacturing in Massachusetts; which, being so nearly the same throughout the whole country, it will be necessary only to name one or two establishments, to form a correct estimate of the whole; and it is proper to select such as are making the kind of goods that it is desirable to introduce into this State. I will, therefore, notice four mills in Lowell, belonging to one company, and in the same inclosure, under one agent. They contain, each 7,168 spindles and 216 looms; they are constructed to spin Nos. 12 and 14 yarn, and to weave 37 inch sheetings, 3 20-100 yards to the lb.—3-4 sheetings, 4 55-100 yards to the lb.—and drillings, 2 85-100 to the lb. The two mills engaged in making 37 inch *sheetings*, turned out, for the six months ending 30th June last, say mill No. 1, 561,544 lbs. of cloth, being 1,820,495 yds. Mill No. 2, produced in the same time, 571,869 lbs., being 1,842,776 yds. The other two mills produced similar results. The cost per lb. for the labor of manufacturing in the two mills, was as follows:

	Mill No. 1.	Mill No. 2.
For Carding,	6 75-100 mills,	6 18-100 mills.
" Spinning,	7 46-100 "	7 51-100 "
" Dressing,	4 65-100 "	4 71-100 "
" Weaving and baling,	1.3 05-100 "	1,2 73-100 "
Total cost,	3,1 19-100 "	3,1 13-100 "

It will, by this statement, be perceived that the cost for the manufacture of this article (the wholesale price of which, at the present time, in this market, is 7 cents per yard) is but 3 cents 1 mill and a fraction per lb.

Let us now suppose the operation to be performed in this State. The raw material would cost 5 cents, allow 10 per cent. for the waste, and we have for the cost of the raw material, 5 cents 5 mills; add to this 3 cents 1 mill, and we have 8 cents 6 mills as the entire cost of one lb. of cloth, 3 20-100 yards to the lb., which at 7 cents per yard, gives 22 cents 4 mills, as the value per lb. of the cloth manufactured. The quantity of cloth turned out by the two mills, in six months, was as follows:

1,133,413 lbs. at 22 cents 4 mills, gives		$253,884 50
Cost of raw material,	$61,837 71	
Cost of labor in the mill,	35,205 81	
		97,843 52
Gross profit,		$156,840 98

From the above result it appears that the enormous sum of $156,840 98 would be left to pay the out door expenses of two mills, for six months, the balance being net profit to the owners.*

* In my calculations showing the large gross profits accruing to the Lowell companies, it must not be supposed, that these companies are dividing such large amounts as *net* gains to their stockholders. It is a fact clear enough to any one, that the difference between the cost of the raw material and the price of goods manufactured, is made to the community in which the operation is performed; yet, lest those disposed to embark their capital in such pursuits, should be deceived by the statement, I will state the average profits of the Lowell companies, from the beginning of their existence to the present time, with this remark, that the Massachusetts company, from some cause or other (probably the embarrassed state of trade from the year 1840 to the latter part of 1843), were not in haste to put their machinery in operation, a portion of which was not

I will now exhibit a statement of another mill in Lowell, engaged in making *osnaburgs*, the machinery being adapted to this particular article, and making nothing else. This mill contains 64 carding machines, 4,864 spindles, and 152 looms. It is worked by 174 hands, and spins No. 4 1-2 yarn. It turned out in the six months, ending 30th June last, 796,900 lbs. of cloth, two yards per lb., making 1,598,800 yards of osnaburgs. The cost for manufacturing which, in the mill, was as follows:

For Carding,	5 94-100 mills.
" Spinning,	4 48-100 "
" Dressing,	3 22-100 "
" Weaving,	8 15-100 "
" Bailing, &c.,	0 88-100 "
	2,2 67-100 "

It will thus be perceived that the entire cost, for the labor employed in making this article, is 2 cents 2 67-100 mills per lb. The cotton that is worked into these goods being very inferior, is worth in this market not over 4 cents per lb., therefore the value of the raw material for this establishment, adding 12 1-2 per cent. for waste, say 896,512 lbs. of raw cotton at 4 cents being $35,860 48-100—and the cost for manufacturing the same, at 2 cents, 2 67-100 mills per lb. of cloth—is $17,933 75-100; while the market value of the same, say 1,593,800 yards at 9 cents per yard, is $143,842—leaving a balance of $90,047 77-100 to pay our-door expenses, such as commissions, freight, oil, starch, insurance, interest on capital, &c. Generally speaking, all expenses after paying operatives (interest on capital included) are covered by 1-2 to 1 cent per yard, according to the quantity of the cloth turned out. These are not mere speculations, but actual results that can be vouched for; they present a fact that cannot but strike a *cotton planter* with great force, viz: *that* 174 *hands in* 12 *months, convert* 4,329 *bales of cotton,* 345 *lbs. to the bale, into cloth—about* 24 3-4 *bales to the hand; thus adding over* $40 *to the value of each bale.*

Statements of other establishments in Cabotville, Fall River, Nashua, and Manchester are at hand, but it is not necessary to add them, as the results are similar. The last mentioned place, Manchester, in New Hampshire, is located on the Merrimack river, at the Amoskeag falls. The first manufacturing establishment was built at this place, in the year 1838, in the woods; it now has five—the three Stark mills, and two belonging to the Amoskeag Company. These five mills contain 37,720 spindles and 1,106 looms. Two new mills are being erected—one to contain 20,000 spindles and 600 looms—the other, 25,000 spindles. The result of establishing these factories is, that a flourishing town, which now contains 7,000 inhabitants, has grown up in the woods.

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worked until May, June and July last, and some portion even as late as the middle of July had not yet been started.

While speaking of the *net gains* of the Lowell manufacturers, we must not be unmindful that the town of Lowell manufactures about 66,313 bales of cotton, 345 lbs. to the bale, and adds by simply spinning and weaving) about 20 cents to the value of each lb., making a gain to that place and its vicinity of upward of *four millions of dollars*; a sum equal to one-third of the capital invested in this branch of cotton manufacturing in that place, and equal in value, to the entire crop of this State.

It is supposed that the two mills now erecting, together with those already in operation, will have the effect of doubling the population in two years, and, in all probability, this town, in ten years, will exceed that of Lowell both in wealth and population.

I might mention many other places that have risen rapidly from the manufacture of coarse cotton fabrics, a business that belongs legitimately to us, at the South. At the risk of being considered tiresome, I will name one more. The town of Newburyport, Mass., was a thriving place, and one of considerable trade, but from various causes it declined. Its trade had been absorbed by Boston and other places, so that its shipping interest had deserted it, and its wharves were desolate and valueless—town property had become worthless, and every thing about it seemed going to ruin. A few of its most enterprising property holders determined to make an effort to resuscitate it, by establishing manufactures, and having no water-power they resorted to steam. It acted like a charm. The three or four establishments put in operation have all done well and produced a new state of things. The wharves are now crowded with shipping—the sound of the hammer is heard in every direction—new houses are being erected and old ones have been remodelled—real estate has not only advanced to its original value, but doubled and quadrupled it; and so it would be with Charleston, Augusta, Columbia, and other places at the South.

ART. VII.—TERREBONNE PARISH, LOUISIANA.

This parish, as its name indicates, is blessed with a fruitful soil, and embraces in its settlement and cultivation many things that are interesting and attractive. It contains a dense population of Americans and French, though the latter predominate; the former commencing with a settlement made by a few persons in 1828, have increased rapidly, and present in their improvements and character the same features which distinguish them in the older sections of the country. It embraces the latitude of 29° 40′. There is something rather unique in the location of this parish. Here is a large district of country lying south of the Mississippi river from Donaldsonville, the inhabitants principally settled and living on several large bayous, which traverse it, and runing into waters connected with the Gulf of Mexico. The cultivation of the soil is continued along these bayous to some distance, the plantations being of considerable depth until they reach the tide-water toward the sea, when they become "beautifully less," and the tillable soil is confined to a skirt of a few hundred yards width between the morass in the rear, and the bayou in the front. It is not more than a day's travel from the source of any of these bayous to a point where traveling by land is impossible, and the appearance of the high sea-grass and wet marsh, proclaims the infeasibility of culture. The jurisdiction of this parish extends to several of the islands skirting the Gulf of Mexico, from whence the sea is viewed in its splender, with its waves perpetually beating against their base.

In writing a brief description of this country, we would say something

of its appearance. And to do this we would institute a comparison, not an unworthy one, of the parish of Lafourche, Interior, through which we pass in reaching it from the Mississippi river. In the latter parish we are impressed with the magnificence of wealth which exists; the eye ranges abroad on scenes of cultivated districts where nearly every thing of forest growth is removed, which would prevent the highest tillage. The dwellings are commodious, and in some respects princely, and the inhabitants known for their hospitality and refinement—but there is the absence of that which gives to the Terrebonne a *rural* aspect, which is not inconsistent with the highest cultivation. The difference is clearly marked in traveling down the Terrebonne road, and in other highways of the parish, observing the plantations which skirt the route, the groves of orange, and other evergreen shades, which environ the dwellings and dot the plantations, which give an air of calmness and beauty. This has its origin, no doubt, in the newness of the country—it may have been an accidental arrangement, it certainly is a great relief to the vision, and combines in a high degree the useful and ornamental. Though this parish is of recent settlement, yet the industry of the planter is clearly manifest. Along the several bayous there are many extensive plantations, highly cultivated, neatly arranged, possessing all the traits which manifests the aptitude of the southern planter in the adaptation of his energies to the soil and climate. Though there are many who cultivate the soil, who do not cultivate the sugar-cane (the chief product here), yet with those who have embarked in this culture there are many establishments of wealth and renown, whose large estates are beautifully embellished by industry and taste, and who pursue planting as both profitable and pleasurable. To illustrate the character of a people as it relates to agriculture and a desire for domestic comfort, we show their tact and disposition in the practical operation of those measures which tend to produce them. We look at the handsome acres cut deep in furrows to sow the seed of a future crop, or at the rich products of the soil. We notice the pastures which abound for the good of cattle, the improvements about the dwelling for the comfort of a family, and the "quarters" where reside the strength in the maintenance of his house and the honor of its name. These we find arranged and fixed after proper models coincident with the sound views of an enlightened and beneficial system, and when continued under this government will bring an adequate reward. Though we do not propose to furnish a model for the emulation of others, yet this country certainly merits a description. The hand of the Creator and the industry of man have made it a beautiful country, and the light should not be hid under a bushel. Commencing with the plantation of Col. Windu, on the Terrebonne bayou, the first nearest the parish line, which is a mile and a half from the town of Thibodeaux, on the Lafourche, to some distance below the plantations of Wm. Bisland, deceased, a distance of thirty miles or more, there is a continuous line of plantations and French agricultural villages—fence joins to fence and plantation to plantation. In passing this road, during fine weather, scenes of lively interest present themselves continually to the eye and mind, either among the Americans or French, all busily performing their allotted duties, and joining in the bustle of life. The houses are neatly built and with respect to comfort, and the orange and oak, and various kinds of

evergreen foliage, set off the yards and present an air of comfort and tranquillity to all around. The quarters manifest comfort in their arrangement, and bespeak the kind feelings of the proprietor for his slaves. The sugar-houses are commodious, and the ground is under that cultivation which is most practicable to yield the richest returns. On the route down the Terrebonne lies the neat village of Houma, the seat of the courts of the parish, and which contains all the requisite buildings, which are of brick, for the administration of justice. The town contains several stores, and is the residence of ten or fifteen families. Here is exhibited to notice an improvement of much importance to this portion of the State, when it shall be fully carried into execution. It is a canal a mile in length, which connects the bayou Black with the Terrebonne. There is another canal eight miles below Houma, several miles in length, first from the Terrebonne to Lake Long, and then through a skirt of land to Field's Lake, and then to the La Fourche, which presents a convenient way of transportation of produce and of travel from the Terrebonne to Field's Mills, on the La Fourche, where steamboats regularly ply to and from New Orleans. These are fragments of what is called the Attakapas and Barrataria Canal, connecting the Attakapas country by Bayou Black, and rendering it a far better outlet for their produce than now exists, and nearer by one-half the distance to New Orleans. This no doubt would have been soon completed under the administration of our late engineer, had not death so soon deprived us of his useful services. It will, no doubt, when completed, confer a great benefit on this country, and to Attakapas particularly, which suffers much inconvenience, during the summer and fall months, for lack of navigation in its streams.

From the Terrebonne bayou we will pass to the Grand Calliou bayou, and dilate a few moments on its merits and character. This bayou is much shorter than the other bayous of the parish; we reach tide water soon and it is the only bayou of any importance not remotely affected by the Mississippi water, and may be considered, on this account, rather as a prong of the sea. On the first plantations of the Calliou it is but a dry bayou in some seasons of the year, serving, however, the very useful purpose of a drain to carry off the rains which fall in the vicinity; further down it assumes the appearance of a large bayou. It is much under the influence of the tides, and on this account is destitute of the matted grass-vine which is disagreeable and inconvenient in other bayous. If admissible, we would enter into some minutiæ in a description of a few plantations on this route. "Wood-lawn" does not belie its name. From the first glance we have of it in the beautiful lawn gently sloping to the bayou, on both sides, the soil carpeted with suitable grass for purposes of pasturage, interspersed with shade trees, presents a rich appearance. The pasture grounds extend the whole length of the plantation, two miles long and several hundred yards wide, embracing quite 200 acres in all, exhibiting a front view from the dwellings, though there is a large body of land beyond, used for farming purposes. There are in this plantation 1,500 acres under fence, 800 in cane. It is in depth more than a mile. There are near 100 miles of ditching on this place. It combines all the qualities of a Tennessee farm in relation to raising stock of all kinds, and pastures, with every quality which characterizes

a sugar-planting interest. There are 300 slaves on this plantation. The quarters are very comfortable houses, supplied with every necessary of life, arranged in proper method, and several rows of shade trees run continuously between these two rows of buildings, presenting in a high degree an aspect of comfort.

DULAC, situated at or near the mouth of the Calliou, the last plantation on this route to the sea coast, commands the admiration of all. The land being narrow, on account of its proximity to the marsh, the plantation is proportionably long, seven or eight miles. Several bayous lie contiguous, and the tide water passes through the ditches, but does not interfere with cultivation. Very beautiful scenery is spread out before the eye here. A lake and sea marsh in one direction, which extends nearly to the limit of vision; large live oaks line the shore of the bayou, a shell road running along it; the rural residence of the hospitable and intelligent proprietor; the garden of tropical evergreens and fruits; the quarter romantically situated near the bayou; the bridge which spans the bayou—these views, connected with the influence of the sea air, which comes fresh from the Gulf, makes one feel, indeed,

"There is not in this wide world a valley so sweet."

We will next speak of an important section of country bordering Bayou Black. This bayou has its origin near Thibodeaux, Lafourche, and its general bearing is toward the Attakapas country. It contains more tillable land than any other in the parish, and the lands are considered of unsurpassed fertility. They have been of later settlement and have the advantage of being new. Though a great portion of this bayou a few years past was new, and the wild deer, and bear, and some say buffalo, prowled unmolested among its solitudes, yet, as if by magic, the wilderness has become transformed and the bayou become thickly inhabited, and the refinements and blessings of society become established along its banks. We notice large plantations, fine dwellings, with the yards and gardens arranged with taste and comeliness. There is heard the sound of the steamboat bell announcing an arrival from New Orleans, and we see schooners loading with the sweets of the sugar-cane for a distant city. There are many plantations on this route which would vie in improvements and appearance with the older sections of this country. We would mention a few of the many that are on this bayou, viz., W. J. Minor, Tobias Gibson's plantations, Mr. Knight, Judge Baker, and W. Robertson, of Virginia.

What impresses one as novel and interesting, is the rapidity with which improvements have been made, and which is more clearly obervable on the lower portion of the bayou: the transition from dense forests and dreary solitudes to large cultivated fields, and rich pastures, and improvements, which display taste and energy and wealth, have been so sudden and yet so substantial. We notice one which derives its name from a solitary and venerable "live oak," fronting the handsome dwelling, and which produces a sage contrast in its towering and brawny limbs to the various neat evergreen hedges and orange trees and bananas, which decorate the yard, and are not far from its vicinity. This is a new place, in cultivation five years, and yet, such is the congeniality of the climate, that taste and fondness for ornamental improvement and

horticulture, abundantly repays the devotee. There are in this tract 2000 arpents, 400 in cultivation, with the area rapidly extending. There are near 75 slaves who make 350 hogsheads of sugar. The quarter is situated a short distance from the road of the bayou, near a shady grove. As is usual, a cook house forms one of the buildings in the quarter, where abundant and well prepared food is supplied to the blacks. The sugar house is a large and beautiful building, with all the modern improvements of railroads, &c., for expediting the work of sugar making. The saw-mill, a very necessary appendage to a large plantation, lies far in the back ground, to make it convenient to the cypress swamp to which it lies contiguous. This place is the property of Tobias Gibson, Esq.

The nearest land route from Attakapas to New Orleans, is by this bayou, and is often traveled. Drovers, with herds of cattle from the prairies, frequent this route. The outlet of this bayou, for navigation purposes, is toward the Attakapas; but should the canal, of which we have spoken, be completed, then there will be a nearer and safer route. There are many planters on these various bayous who are the owners of smaller estates than those we have mentioned, and they are numerous, and add to society the benefit of intelligence with pleasant intercourse. Great improvements are in progress in the parish with respect to schools and churches, and the advancing state of learning and morality will insure to both success with those who wish well for the character and prosperity of the country. There are a large brick school house in Houma, a Catholic church, and a Methodist church newly built. There is likewise another Protestant church, belonging to the methodists on Bayou Black, and recently completed. The slaves are not debarred from a participation in religious duties. It is considered by some their duty to have their slaves taught religious duties, by a competent instructor, on their own plantations. The example set by such men as Thomas Pugh, Dr. Kitteridge, W. Pew, Thomas Bibb, and George S. Guiou, in the parish of Laforche, Int., and K. H. Cage, Dr. Danks, and Tobias Gibson, in this parish, practical men, who see its benefits, cannot be gainsaid. By a proper inculcation of moral and religious duties, the slave is a better servant, and it has a bearing upon an immortal destiny.

Oak Grove, Bayou Black, November 14, 1849.

DEPARTMENT OF AGRICULTURE.

1. PROSPECTS OF THE COTTON TRADE FOR 1850.

CROPS OF THE WORLD, PRICES, ETC., BY PROF. M'CAY, OF GEORGIA.

THE price of cotton, during the past season, has been continually upward. About the first of November it reached the lowest point, and, from that time forward, there has been a uniform advance. At first, the rise was slow, with occasionally a backward movement; but recently it has been so rapid, that the rates have already risen (see table I, at the end of this article) from thirty-five per cent. below to thirty-five per cent. above the average. The causes of this advance are plain and evident. There is no mystery, no combinations of planters or sellers, no forced or unnatural efforts of speculators, bringing about the

results. The pacification of Europe, the revival of business in France, the fine harvest in England, the large consumption, the small stocks, and the discouraging prospects of the new crop, are all powerful influences, favorable to an advance; and it is difficult or impossible to name a single cause in the opposite direction. Of these influences, the most powerful is the promise of a short crop. After the largest production ever before known, we see the stocks on hand lower than they were at the beginning of the year. (Table II.) With a decrease in the amount produced, below the wants of the manufacturers, prices necessarily rise above the average, until the high rate of the raw material lessens the consumption and brings the demand within the supply. It is this cause, more than all the others combined, that has brought about the recent advance. The triumph of the Austrians in Lombardy, and of the Neapolitans in Sicily; the establishment of order in Paris and Vienna; the cessation of hostilities in Schleswig-Holstein, and in Hungary, have all produced but a slight effect; while the late frost in April, the heavy rains in summer, the rust, the worm, and the caterpillar in the autumn, have told with great power on the market. The splendid harvest in England has been next in influence; but next only, after a great interval. All have, however, combined to produce the effect, and they have done it fairly, legitimately, and, therefore, permanently. In considering, therefore, the probable supply and demand for the coming year, we must base our calculations on high prices. This will increase the shipments from India, and, by encouraging late picking, increase the production of the United States. It will, at the same time, discourage consumption, generally, and especially in England. Already have the spinners at Manchester commenced working short time, and this is not to be regarded as a combination to prevent the rise in prices, but the necessary consequence of a short crop. A diminished supply of cotton causes an advance in the price, and a diminished consumption is indispensably necessary to bring up the price of the manufactured article. In this way the equilibrium between demand and supply is established, and price must be considered, before either the supply or the demand can be properly estimated.

The supply from the United States will this year be undoubtedly small. But small and great are comparative words, having no meaning of themselves. We mean that the crop will fall off largely from the receipts of last year. It will do this at every principal sea-port, and for two causes. Because the production is less, and because the large stocks in the hands of the planters had much to do with the extraordinary receipts of last season.

The crop of South Carolina and Georgia will be shortened by the late frost in the spring, by the excessive rains in June and July, and by the drouth in August. The worm, also, has done considerable damage in some portions of these States. The season is very much protracted, but this was the case last year. The amount planted is not larger, as a greater breadth of land was devoted to wheat than ever was done before. Near Macon, a considerable force was turned to the construction of the South-western railroad. These causes have none of them been very fatal or serious, but they have had their influence. The effect of all may be estimated to produce a falling off of seventy-five thousand bales in these two States. A like decline, compared with last year, may be anticipated, on account of the large supply of old cotton, which was carried forward to swell the receipts of last season. The amount received at Charleston and Savannah, will thus be reduced from eight hundred and fifty thousand bales to seven hundred thousand. The extension of railroads further west, will attract to these ports some cotton formerly sent to the Gulf of Mexico, and thus keep up the receipts higher than they would have been in former years, when the prospects of the crop were the same as they now are.

At Apalachicola and Mobile the receipts must fall off largely. Besides the causes operating in the Atlantic States, they have had the rust and the caterpillar in many places. The ball-worm has also been much more destructive than in Georgia. On the Tombigbee, the disasters have been greater than in the worst seasons we have ever had. Twenty per cent. on the receipts of last year may be deducted for the amount of the new crop. This may seem small to those who have heard the reports from the western and southern portions of Alabama and Georgia. But when the price is as high as it now is, the planters will keep their hands picking till February. Many a field that would have

been plowed up or neglected, will now be gone over a fourth or a fifth time. This cotton will be poor, but it will swell the receipts as much as any other.

From New Orleans we have more disastrous reports than from any other portion of the cotton region. Besides all the injuries before mentioned, they have suffered from the overflowings of the Mississippi and the Red River. The damage has been especially severe on the Red river, where the loss from this cause alone, has been estimated as high as one hundred thousand bales: This is exaggerated, doubtless, but the injury has been very serions. The prevalence of cholera, during the summer, along the Mississippi, by diminishing the force at work, permitted the grass to grow, and thus injured the prospects of the crop. Throughout Louisiana, Mississippi and Arkansas, the deficiency will be large, but in Tennessee and North Alabama it will be slight. A falling off of twenty per cent. may be anticipated at New Orleans; but not more than this, because the disasters of last year had already reduced their receipts ten per cent. below those of the preceding year.

Texas, North Carolina and Virginia, will produce about as much as last year. The increased cultivation in Texas will make up for the ravages of the worm. These estimates bring up the whole production of the United States to two millions two hundred and fifty thousand bales. (Table III.)

The supply from India is very much dependant on the price. There has been a report from Bombay of a failure in the crop, but this has not been confirmed by subsequent advices. The discouraging news from the shipments to China will balance the effect of any slight deficiency in the production. A considerable increase may be anticipated over the imports of 1849, on account of the rise in prices: but they will not much exceed the average of the last seven years. This has been two hundred and eight thousand bales, and I would estimate the imports into England for 1850, at two hundred and thirty thousand bales. (See table IV.)

The receipts from Egypt, Brazil, and the West Indies, are small, and nearly stationary. The rise in prices will probably prevent any falling off from the receipts of 1849. These will doubtless reach two hundred and twenty thousand bales (table V), and the same amount may be expected for the next year.

The summary of these supplies gives a total of two millions seven hundred thousand bales (table VI), which is less than the crop of the United States, for the year that has just closed. This falling off in the supply must cause a decrease in the consumption, else all the present stocks would be exhausted—a result which cannot possibly occur.

This decrease will not take place in the United States. It would seem, from the published statements (table VII), that the wants of our manufacturers have declined in the past year. This is, beyond doubt, only apparent. The very low price at which cotton was sold at the close of 1848, induced the manufacturers to lay in large stocks, while the advancing rates of 1849 produced an opposite effect. Hence, the extraordinary increase that appeared to take place in 1848, and the apparent decrease in 1849. The advance in the consumption of the United States has been so uniform and unvarying, that no fears need be indulged that this increase will not continue. We have already become the largest consumer of cotton in the world, and this rank we will continue to hold, without dispute, hereafter. Our people now manufacture more cotton, and purchase more cotton goods, than are consumed by Great Britain and all her dependencies, in the four quarters of the globe (table VIII); and the next year will witness no change in this matter. High prices of the raw material have no power to check consumption here. Our people are not so poor as to deny themselves necessary clothing, when prices rise, and almost all cotton goods are necessaries, not luxuries, of life. High prices of cotton, besides, favor our consumption, to some extent, by increasing the ability of the South to buy, and by keeping down the price of exchange, and preventing the exportation of specie. Our consumption for 1850 may safely be put at five hundred and fifty thousand bales, the average for 1847 and 1848 being five hundred and twenty thousand. A decline must take place in Great Britain. The favorable prospects presented by a fine harvest, cheap food, and general prosperity, will fail to neutralize the influence of high prices of the raw material. Peace in India, in Germany, in Italy, in the whole world, cannot enable the European laborers to consume their usual amount of goods, when prices advance beyond their usual

limit. The fund out of which the great mass purchase their clothing, is limited, and this constant sum will buy a smaller number of yards, when the cost per yard is increased. With average rates for cotton, the consumption of England would exceed that of any former period. Ireland is quiet; the chartist agitation has ceased; food is abundant; trade is active; the currency in fine order; money at a low rate of interest; the stocks of goods in the hands of manufacturers small; the demand for labor on railroads, mines, and iron works, good; and everywhere the elements of prosperity visible. The foreign market is not less promising than the home market. From Europe, India, and America, the demand for English exports is alike favorable. But in spite of all these considerations, the advance in the raw material must inevitably check the consumption.

The deliveries to the trade this year have exceeded every former year. The excess over 1845 (table IX) is slight—over last year it is considerable. The stocks in the hands of manufacturers are now small, because they have been buying, for some time, less than they have consumed. The whole consumption in 1848, was one million four hundred and sixty-four thousand bales, and in 1845, it was one million five hundred and seventy-four thousand. For the present year, it will probably reach one million six hundred thousand bales; but for 1850, it cannot safely be estimated at higher than one million four hundred and fifty thousand.

In France the consumption is now largely in advance of last year, and up to the 1st of August it exceeded the amounts of 1845 and 1846. (Table X.) The increased stability of Louis Napoleon's government, for the last half of the present year, promises that this excess will be maintained, and that the close of the year will witness the largest delivery of American cotton ever made. The whole amount of American cotton consumed in France was three hundred and fifty-one thousand bales in 1845, and two-hundred and seventy-seven thousand in 1848. For 1849, it will probably reach four hundred thousand bales; and, unless political troubles, not now foreseen, should injure the prospects of trade, the high price of cotton will not bring the demand for 1850 below three hundred and fifty thousand bales.

On other parts of the continent, besides France, the consumption of cotton has been regularly increasing. The average demand for the last five years, has been four hundred and forty-two thousand bales, and this period includes the disastrous harvest of 1847, and the revolutionary excitement of 1848 and 1849. The demand for 1850 cannot fall as low as this average. It will be almost certain to exceed four hundred and fifty thousand bales, even if the present advance in prices is sustained.

We have thus a total demand (table XII) of two million eight hundred thousand bales, which exceeds the supply (table VI) one hundred thousand bales. As the stocks were lower in January last (table XIII) than they had been for the last ten years, and as they are now lower (table II) than they were a year ago, this deficiency of the supply must keep up prices much above the average. They are now thirty or forty per cent. above, middling fair being quoted in Charleston (October 19th) at ten and three-quarter cents. This advance must be maintained, unless the lateness of the frost should carry up the United States crop above two million two hundred and fifty thousand bales, or unless serious political troubles should arise in Europe, to darken the prospects of business. The day of prosperity to the planter has at last come. The promise for the future is bright. The crop is not small, though much reduced from last year. It is the increased consumption during the last year, as much as the short crop, which has advanced prices. The prospect is, therefore, that even a large crop from the next planting will bring fair prices, while a failure would carry up prices to the high range of 1835 and 1836. The present crop, though small, will bring a much larger amount of money than the last. The disasters being uniformly distributed, every part of the country will receive the benefit. The planters have deserved this prosperity, and at last they have received their reward. Let them continue their endeavors to divert their labor to other pursuits; let their extra capital be devoted to the building of railroads, mills and factories; let them extend the cultivation of sugar, wheat and corn; let them raise at home their own pork, mules and horses; let them encourage domestic manufactures of all kinds. And, by thus transferring a portion of

their labor from the production of cotton. it will be easy to keep up the price above the low limits to which it has fallen, for the last few years.

TABLE I.—AMERICAN EXPORTS, VALUE AND AVERAGE PRICE.

1840 to 1848, Exports in lbs., 6,050,200,000; Value in the Custom House, $487,930,000; Price in cents, 8.0; Whole crop in lbs., 7,451,000,000; Value of whole crop, $592,041,000. 1849, Price in cents, about 6.0; Whole crop in lbs., 1,140,000,000; Value of whole crop, $68,400,000. Total for ten years, from 1840 to 1849 inclusive: Whole crop in lbs., 8,591,000,000; Value of whole crop, $660,441,000; Average price, 7.7 cents. Thirty-five per cent. below, is 5 cents; and thirty-five per cent. above, is 10.4 cents.

TABLE II.—PER CENT. STOCKS.

	1849.	1848.
United States, 1st of September, 1849,	Bales 155,000	Bales 171,000
Liverpool, 5th of October, 1849,	" 547,000	" 533,000
Havre, 1st of August, 1849,	" 64,000	" 95,000
Total, for these three places,	766,000	799,000

TABLE III.—UNITED STATES CROP.

	Receipts.		*Estimate.*	
	1847.	1848.	1849.	1850.
Texas,	8,000	40,000	39,000	40,000
New Orleans,	706,000	1,191,000	1,094,000	900,000
Mobile,	324,000	436,000	519,000	420,000
Florida,	128,000	154,000	200,000	170,000
Georgia,	243,000	255,000	391,000	325,000
South Carolina,	350,000	262,000	458,000	375,000
Other places,	20,000	10,000	28,000	20,000
Total,	1,779,000	2,348,000	2,729,000	2,250,000

TABLE IV.—ENGLISH IMPORTS FROM THE EAST INDIES.

Years.	*Import.*	*Remarks.*
1825 to 1833, average bales,	73,000	Declining prices.
1833 to 1841, " "	140,000	High prices.
1841 to 1843, " "	265,000	Chinese war.
1843 to 1846, " "	192,000	Peace and low prices.
1841 to 1849, " "	208,000	Moderate prices.
1846,	50,000	Low prices and repeal duty.
1847,	223,000	Advance in prices.
1848,	227,000	Moderate prices.
1848, first six months,	102,000	Moderate prices.
1848, October 6th, Liverpool,	93,000	Moderate prices.
1849, first six months,	38,000	Very low prices.
1849, October 5th, Liverpool,	69,000	Very low prices.
1849, whole year, about	150,000	Very low prices.
1850, " " "	230,000	High prices.

TABLE V.—ENGLISH IMPORTS FROM BRAZIL, EGYPT, ETC.

1844,	bales, 197,000	1848, first six months,	bales, 55,000
1845,	" 201,000	1848, October 6th, Liverpool,	" 93,000
1846,	" 153,000	1849, first six months,	" 135,000
1847,	" 136,000	1849, October 5th, Liverpool,	" 180,000
1848,	" 137,000	1849, whole year, about	" 220,000
Average,	" 165,000	1850, whole year, about	" 220,000

TABLE VI.—SUPPLY.

	1849.	1850.
Crop of the United States,	bales, 2,720,000	bales, 2,250,000
English import from East Indies, about	" 151,000	" 230,000
English import from all other places, about	" 220,000	" 220,000
Total,	" 3,100,000	" 2,700,000

TABLE VII.—AMERICAN CONSUMPTION.

Years.	*American consumption.*	*Average for three years.*	*Increase per cent.*
1844,	bales, 347,000	bales, 321,000	5.2
1845,	" 389,000	" 354,000	10.3
1846,	" 423,000	" 386,000	9.0
1847,	" 428,000	" 413,000	7.0
1848,	" 523,000	" 458,000	10.9
1849,	" 518,000	" 490,000	7.0

TABLE VIII.—ENGLISH MANUFACTURES—AVERAGE ESTIMATE OF BURNS & HOLT IN MILLIONS OF POUNDS.

	1845.	1846.	1847.	1848.	*Average.*
Weight of manufactured goods,	511	514	377	509	478
Weight of goods exported,	348	366	300	335	337
Weight retained at home,	163	148	77	174	141
Weight exported to British Possessions,	85	87	67	79	72
Total amount retained for Great Britain and her Dependencies,					213
Add 1¾ ounce for waste in manufacturing each pound,					26
Total amount of raw material consumed,					239
Number of bags consumed in the whole United States in 1849,					628,000
Weight of these in millions of pounds, at 417 pounds per bag,					263
Excess of United States consumption over English,					24

TABLE IX.—DELIVERIES TO THE TRADE AT LIVERPOOL.

	1849.	1848.	1845.
October 5th,	bales, 1,220.000	1,032,000	1,187,000
September 1st,	" 1,123.000	921,000	1,070,000
August 3d,	" 989,000	812,000	958,000
July 6th,	" 835,000	665,000	826,000

TABLE X.—DELIVERIES AT HAVRE.

	1849.	1848.	1847.	1846.	1845.
August 1st,	bales, 242,000	151,000	142,000	217,000	231,000

TABLE XI.—CONSUMPTION ON THE CONTINENT.

Years.	*English exports.*	*American exports, omitting France and Great Britain.*	*Stocks on the 31st December.*	*Apparent consumption.*
1844,	bales, 135.000	144 000	120,000	.....
1845,	" 121.000	285,000	90.000	436,000
1846,	" 194,000	205.000	39.000	450.000
1847,	" 208,000	169.000	76,000	340.000
1848,	" 190.000	255,000	60.000	461,000
1848, 6th Oct.	" 115,000	.....	.....	.....
1849, 5th Oct.	" 170,000	.....	.....	.....
1850, about	" 240,000	322,000	100,000	522,000

TABLE XII.—DEMAND.

	1849.	1850.
Consumption of the United States,	bales, 518.000	550,000
Consumption of Great Britain, about	" 1,600.000	1,450,000
Consumption in France of U. S. cotton, about	" 400.000	350,000
English and American ex'pts to other countries,	" 562,000	450,000
Total,	" 3,080,000	2,800,000

TABLE XIII.—STOCKS.

Year.	*Liverpool.*	*Great Britain.*	*France.*	*Rest of Continent.*	*Total.*
1844, December 31st,	741,000	903.000	78,000	120,000	1,101.000
1845, " "	885,000	1,060 000	69,000	90,000	1,219,000
1846, " "	439 000	549 000	20,000	39 000	618,000
1847, " "	364.000	452.000	63,000	76.000	591,000
1848, " "	393,000	496,000	29,000	60,000	579,000

2. CROPS OF 1848.

The following tables of the crops for the year 1848 are copied from the tables prepared under the superintendence of the Commissioner of Patents, to accompany his annual Report, which has been recently submitted to Congress, 1849:

	Wheat, bushels.	*Barley, bushels.*	*Oats, bushels.*	*Rye, bushels.*	*Buckwheat, bushels.*	*Ind. corn, bushels.*
Maine,	900,000	220,000	2,000,000	200,000	80,000	3,000,000
New Hampshire,	620,000	132,000	2,500,000	500,000	175,000	2,600,000
Massachusetts,	260,000	175,000	2,300,000	750,000	145,000	3,800,000
Rhode Island,	4,600	55,000	220,000	55,000	5,000	900,000
Connecticut,	130,000	30,000	2,000,000	1,500,000	500,000	3,400,000
Vermont,	680,000	60,000	3,500,000	370,000	350,000	2,500,000
New York,	15,500,000	4,300,000	28,000,000	4,000,000	3,860,000	17,500,000

New Jersey,	1,200,000	12,000	5,800,000	3,300,000	1,000,000	9,000,000
Pennsylvania,	15,200,000	155,000	20,000,000	13,500,000	3,800,000	21,000,000
Delaware,	450,000	4,500	700,000	65,000	16,000	3,850,000
Maryland,	5,150,000	3,000	2,200,000	1,200,000	1,200,000	8,800,000
Virginia,	12,250,000	94,000	11,000,000	1,800,000	270,000	38,000,000
North Carolina,	2,450,000	4,200	4,000,000	300,000	20,000	26,000,000
South Carolina,	1,400,000	4,800	1,250,000	60,000	.....	13,500,000
Georgia,	2,100,000	12,600	1,500,000	80,000	.....	27,000,000
Alabama,	1,300,000	7,800	2,000,000	85,000	.....	28,000,000
Mississippi,	550,000	2,250	1,500,000	30,000	.....	17,000,000
Tennessee,	9,000,000	6,800	10,500,000	400,000	34,000	76,600,000
Louisiana,	.....	.....	.....	2,500	.....	10,600,000
Kentucky,	6,500,000	20,000	15,000,000	2,800,000	18,000	65,000,000
Ohio,	20,000,000	300,000	30,000,000	1,250,000	1,500,000	70,000,000
Indiana,	8,500,000	42,000	17,000,000	300,000	110,000	45,000,000
Illinois,	5,400,000	120,000	5,000,000	170,000	130,000	40,000,000
Missouri,	2,000,000	15,000	7,000,000	90,000	30,000	28,000,000
Arkansas,	500,000	1,100	500,000	12,000	.....	8,000,000
Michigan,	10,000,000	300,000	6,000,000	100,000	310,000	10,000,000
Florida,	.....	.....	13,000	.....	.....	1,250,000
Wisconsin,	1,600,000	35,000	2,500,000	10,000	40,000	1,500,000
Iowa,	1,300,000	40,000	1,500,000	15,000	25,000	3,500,000
Texas,	1,300,000	.....	.....	.....	.....	1,800,000
District of Columbia,	20,000	.....	17,000	80,000	.....	50,000
Oregon,	100,000	.....	.....	.....	.....	1,000,000
	126,364,600	6,222,050	185,500,000	32,952,500	12,538,000	588,150,000

	Potatoes, bushels.	*Hay, tons.*
Maine,	9,000,000	1,200,000
New Hampshire,	5,000,000	680,000
Massachusetts,	4,800,000	750,000
Rhode Island,	800,000	90,000
Connecticut,	3,500,000	650,000
Vermont,	8,000,000	1,400,000
New York,	27,000,000	4,200,000
New Jersey,	2,100,000	470,000
Pennsylvania,	8,200,000	2,000,000
Delaware,	200,000	25,000
Maryland,	1,000,000	130,000
Virginia,	3,500,000	430,000
North Carolina,	3,200,000	140,000
South Carolina,	4,200,000	35,000
Georgia,	2,000,000	28,000
Alabama,	2,500,000	21,000
Mississippi,	2,600,000	1,000
Louisiana,	1,800,000	30,000
Tennessee,	3,000,000	50,000
Kentucky,	2,200,000	140,000
Ohio,	5,000,000	1,600,000
Indiana,	2,500,000	500,000
Illinois,	2,300,000	450,000
Mobile,	1,200,000	100,000
Arkansas,	800,000	1,500
Michigan,	5,000,000	400,000
Florida,	500,000	1,500
Wisconsin,	1,250,000	150,000
Iowa,	1,000,000	60,000
Texas,	300,000	.....
District of Columbia,	25,000	2,000
	114,475,000	15,735,000

	Hemp, tons.
Tennessee,	800
Kentucky,	11,000
Ohio,	500
Indiana,	480
Illinois,	550
Mobile,	7,000
Total,	20,330

	Tobacco, lbs.
Massachusetts,	150,000
Connecticut,	825,000
New York,	36,000
Pennsylvania,	610,000
Maryland,	23,000,000
Virginia,	45,000,000
North Carolina,	13,000,000
South Carolina,	33,000
Georgia,	220,000
Alabama,	360,000
Mississippi,	215,000
Tennessee,	36,500,000
Kentucky,	68,000,000
Ohio,	9,500,000
Indiana,	3,950,000
Illinois,	1,340,000
Mobile,	15,600,000
Arkansas,	220,000
Florida,	350,000
Total,	218,909,000

	Cotton, lbs.
Virginia,	2,800,000
North Carolina,	45,000,000
South Carolina,	105,000,000
Georgia,	220,000,000
Alabama,	165,000,000
Mississippi,	245,000,000
Louisiana,	190,000,000
Tennessee,	36,000,000
Kentucky,	2,200,000
Arkansas,	25,000,000
Florida,	18,000,000
Texas,	12,000,000
Total,	1,066,000,000

	Rice, lbs.
Virginia,	3,500
North Carolina,	3,600,000
South Carolina,	90,000,000
Georgia,	18,000,000
Alabama,	350,000
Mississippi,	1,200,000
Louisiana,	5,000,000
Tennessee,	12,000
Kentucky,	25,000
Illinois,	9,000
Florida,	1,000,000
Total,	119,199,500

	Sugar, lbs.
Louisiana,	200,000,000

COMPARISON OF THE ESTIMATES OF 1848 WITH THOSE OF 1847. POPULATION 1840, 17,069,453.

	1847.	1848.
Estimated population,	20,746,400	21,686,000
No. of bushels of wheat,	114,245,500	126,364,600
do. do. barley,	5,649,950	6,222,050
do. do. oats,	167,867,000	185,500,000
do. do. rye,	29,222,700	32,952,000
do. do. buckwheat,	11,673,500	12,538,000
do. do. Indian corn,	529,350,000	588,150,000
do. do. potatoes,	100,965,000	114,475,000
do. tons of hay,	19,819,900	15,735,000
do. do. hemp,	27,750	20,000
do. pounds of tobacco,	220,164,000	218,909,000
do. do. cotton,	1,041,500,000	1,066,000,000
do. do. rice,	103,040,500	119,199,500

—[Journal of Com.

3. FLORIDA TOBACCO—FLORIDA PRODUCTS.

We are gratified to learn that our Gadsden county friends have made fine crops of the valuable tobacco which they cultivate so successfully; and we are also informed that they obtain a good price for the article, purchasers being ready and anxious to buy, which shows that the supply by no means exceeds the demand.

It is not generally known in the United States that the tobacco above referred to, and which has as yet been grown no where to any extent except in Gadsden county, finds a ready market in Germany, being principally shipped to Bremen, and pays the planter as high as twenty-five cents for the first quality.

What makes the culture of tobacco so profitable to the planters, is the fact that it is almost a surplus crop—they being able to make a tobacco crop, and at the same time to make three-quarters of a cotton crop, and enough provisions besides. Fodder cannot well be made with tobacco, but the loss of this crop may be compensated perhaps by the hay, which we learn some of our planters manage to cure from the grass to be found in the fields.

As yet none but new lands have been cultivated for tobacco, the cut-worm prevailing to such an extent in the old lands as to prove very destructive to the plant; we have no doubt, however, but that the skill and energy of our farmers will enable them to provide a remedy for this evil, and that all rich and strong land, having the right kind of chemical constituents in its soil, will be made to produce good tobacco.

What with sugar, rice, indigo, tobacco, sea island, and short staple cotton, tropical fruits—productions which our soil will yield and our soil will allow of being cultivated with success—the live oak, juniper, cedar and pitch pine, of our forests—our turpentine, and last, not least, our fisheries—our State offers strong inducements to the skillful and industrious agriculturists, not to be surpassed by the much coveted Island of Cuba, nor by any of the most favored regions of the new world. Nature has here been lavish of her bounties—we only need the sweat of man's brow to yield rich fruits to reward his industry.

The vaunted advantages held out by the friends of Texas, turned the tide of emigration away from Florida. Our Indian war did a good deal toward the sme result—but we are led to think, from what we have seen and heard, that "sober second thought" has convinced many who passed by Florida to go further West, that they erred in so doing; and we are the more convinced that such is the fact, from having seen and heard of a number of persons, who had been to Louisiana and Texas and "located," but becoming satisfied that Florida afforded better advantages to the planter, have returned and settled in our State.

4. CULTIVATION OF LAND IN THE UNITED STATES.

The following is an approximate estimate of the proportion of lands in the respective States and Territories at this time under cultivation:

	Per cent.		Per cent.
New Hampshire,	60	Ohio,	50
Vermont,	40	Indiana,	30
Maine,	20	Illinois,	15
Massachusetts,	60	Michigan,	30
New York,	65	Iowa,	10

New Jersey,	50	Texas (proper),	15
Pennsylvania,	70	Rhode Island,	60
Maryland,	20	Connecticut,	75
Virginia,	40	Florida,	15
South Carolina,	40	Wisconsin,	20
Georgia,	40	Missouri,	40
Alabama,	20	North Carolina,	25
Mississippi,	50	Louisiana,	60
Tennessee,	50	Arkansas,	25
Kentucky,	40		

This shows that without our newly acquired territories, there is 60 per cent. of the United States, or more than one-half, uncultivated.

It also shows that we have yet abundant room for at least twice our present population; and lastly, it shows that the United States is destined to be the mistress of the world.

DEPARTMENT OF COMMERCE, &C.

1. CHARLESTON, SOUTH CAROLINA, AND ITS PROSPECTS—SLAVE TRADE.

[We are indebted to Dr. Desausure for the portion of the late Census Report of Charleston, relative to commerce, &c., which he prepared under authority for the city council. When the full volume is received, we intend an elaborate notice of it and a condensation of many of its particulars. This report is one of the most valuable contributions yet made to statistical literature, and is highly honorable to the citizens of Charleston, who thus evince a spirit nothing short of that which has given Boston so much celebrity. These elaborate census volumes are invaluable records. Boston, New York, Charleston and Savannah, have led the way in their preparation. Will not New Orleans, which claims the second rank among American cities, follow without delay the example. The field among us is a rich one and scarcely, if at all, tilled. It will be our part to urge the matter with becoming earnestness on all occasions.

But to the Charleston Report. We have only space now to extract from the abundant and most admirably arranged statistics of Dr. Desausure, the following account of the slave trade, &c.—Ed.]

SLAVE TRADE OF THE SOUTH.

The following statistics of the slave trade at Charleston, from 1804 to 1807, are taken from the speech of the Hon. Judge Smith, senator from South Carolina, delivered in the Senate of the United States on 8th December, 1820.

"In the year 1804, the ports of South Carolina, by an act of its Legislature, under the permission of the constitution of the United States, were opened for the importations of Africans. They remained open four years. During that time there were two hundred and two vessels entered the port of Charleston, with African slaves." * * * * * * * * * * * * "He wrote to a friend in Charleston, to apply to the custom house officers for a full statement of all the ships engaged in that trade during the four years. * * * In answer to his request, he had received from the custom house books, from the hand of the collector, the following authentic documents:"

1804. Vessels.	Country of the Proprietor of the Cargo.
Aurora,	New England.
Ann,	Scotland.
Easter,	"
Brilliant,	Rhode Island.
Armed Neutrality,	Great Britain.
Argo,	Ireland.
Thomas,	Great Britain.
Horizon,	"
Harriot,	"
Eliza,	"
Alexander,	"
Francis,	"
Christopher,	"

1804. Vessels.	Country of the Proprietor of the Cargo.
Favorite,	Great Britain.
M'Lespine,	"
Susanna,	New England.
Active,	Great Britain.
Hamilton,	"
Ruby,	"
Mary,	"
1805.	
Perseverance,	Great Britain.
Kitty,	Charleston.
Lupin,	Rhode Island.
Mary Huntley,	Great Britain.

Gov. Wentworth,.....Great Britain.
Experiment,..... "
Eagle,.....Rhode Island.
Neptune,..... "
Fanny,.....Great Britain.
Thomas,..... "
Nile,..... "
Recourse,..... "
Isabella,..... "
Armed Neutrality,..... "
Susanna,..... "
Love and Unity,.....Rhode Island.
Jack Park,.....Great Britain.
Manning,..... "
Juliet,.....Rhode Island.
Margaret,.....Great Britain.
Louisiana,.....Rhode Island.
Ariel,.....Great Britain.
Estor,..... "
Margaret,..... "
Hiram,.....Rhode Island.
Louisiana,..... "
Maria,.....Great Britain.
Hambleton,..... "
Rambler,.....Rhode Island.
William,.....Great Britain.

1806.

Ariel,.....Great Britain.
Mary,..... "
Daphna,..... "
Carie,..... "
America,..... "
Davis,..... "
Lydia,.....New Jersey.
Dutton,.....Great Britain.
Amazon,..... "
Fair American,.....Rhode Island.
Miller,.....Ireland.
Edward & Edmund,.....Great Britain.
Factor,.....Rhode Island.
Louisa,..... "
Commerce,..... "
Gustavus,.....Charleston.
Neptune,.....Rhode Island.
Robert,.....Great Britain.
Polly,.....Rhode Island.
Hiram,..... "
Samuel,.....New Jersey.
Love and Unity,.....Rhode Island.
Three Sisters,..... "
Hector,.....Great Britain.
Ruby,..... "
Farmer,..... "
Maria,.....Rhode Island.
Ceres,.....Great Britain.
Independence,.....Rhode Island.
Hibernia,.....Great Britain.
Alert,..... "
Agent,.....Rhode Island.
Mary,.....Great Britain.
Three Friends,..... "
Fair Eliza,..... "
Fox,.....Rhode Island.
Kitty,.....Charleston.
Hope,.....Rhode Island.
Hope,.....Ireland.
Nantasket,.....Great Britain.
John Watson,..... "
Gov. Dodsworth,..... "
Mary Ann,..... "
Diana,..... "
Davenport,.....New Jersey.
Corydon,.....Great Britain.
Kate,..... "
Mercury,..... "
Union,..... "
Washington,..... "
Louisa,.....Rhode Island.
Nicholson,.....Great Britain.
Edward & Edmund,..... "
Mercury,..... "
Little Ann,.....Charleston.
Margaret,.....Great Britain.

1807.

Katy,.....Great Britain.
James,..... "
Eliza,.....Rhode Island.
Cleopatra,.....Great Britain.
Union,.....Rhode Island.
Tartar,.....Great Britain.
Maria,..... "
James,.....Massachusetts
Mary,.....Rhode Island.
Aspmal,.....Great Britain.
James,.....Charleston.
Norfolk,.....Ireland.
Fourth of July,.....Charleston.
Dudder,.....Great Britain.
Habit,.....France.
Agent,.....Rhode Island.
Eliza,.....Great Britain.
Ann,..... "
Ellis,..... "
Andromache,.....Rhode Island.
Gov. Clairborne,.....France.
Hiram,.....Rhode Island.
Semiramis,..... "
Neptune,..... "
Nancy,..... "
Minerva,.....France.
Columbia,.....Rhode Island.
Factor,..... "
Lavinia,..... "
Leander,..... "
Daphney,.....Great Britain.
Vulture,.....Rhode Island.
Africa,.....Great Britain.
Three Friends,..... "
Eliza,.....Rhode Island.
Lark,..... "
Alfred,..... "
Louisa,.....Great Britain.
Hiram,.....Rhode Island.
Concord,..... "

Friendship,	Rhode Island.
Flora,	"
Ann and Harriot,	"
Monticello,	"
Amazon,	Great Britain.
Baltimore,	Rhode Island.
Juliet,	"
Miriam,	France.
Heron,	Ireland.
Ruby,	Great Britain.
Three Sisters,	Rhode Island.
Betsy and Sally,	"
Armed Neutrality,	Great Britain.
Anna,	France.
John,	Great Britian.
Nantasket,	"
Gov. Clinton,	France.
Eagle,	Rhode Island.
Port Mary,	Great Britain.
Eliza,	Charleston.
Mary,	Rhode Island.
Eagle,	"
Actor,	Ireland.
Hannah Bartlet,	Rhode Island.
Mary,	"
Edward & Edmund,	"
Charleston,	Great Britain.
Experience,	Rhode Island.
Rambler,	Rhode Island.
Eliza,	"
Cleopatra,	Great Britain.
Hope,	Rhode Island.
Charlotte,	"
Albert,	S. Carolina.
Commerce,	Rhode Island.
Hope,	Massachusetts
Wealthy Ann,	Rhode Island
Columbia,	"
Angenora,	"
Mercury,	Ireland.
Venus,	Rhode Island.
Agent,	France.
Gen. Clairborne,	"
James,	Rhode Island.
Resolution,	Great Britain.
William & Mary,	"
Caroline,	France.
Polly,	Charleston.
Jupiter,	Great Britain.
Heart of Oak,	Rhode Island.
Horizon,	"
Mary Ann,	"
Mary Ann,	"
Rio,	Charleston.
Sally,	"

RECAPITULATION.

Of the African trade and by what nations supported, from 1st January, 1804, to 31st December, 1807.

Vessels belonging to	
Charleston,	61
Rhode Island,	59
Baltimore,	4
Boston,	1
Norfolk,	2
Connecticut,	1
Sweden,	1
Britain,	70
France,	3
Total,	202

Consignees.	
Natives of Charleston,	13
" Rhode Island,	88
" Britain,	91
" France,	10
Total,	202

Whole number of slaves imported, and the particular number imported by each foreign nation, and each of the United States (into Charleston.)

British,	*19,649
French,	*1,078
	21,027

IN AMERICAN VESSELS.

Charleston, South Carolina, belonging to foreigners,	5,107
Imported by merchants and planters of Charleston and vicinity,	2,006
	7,723

*There is a typographical error of 300 in one of these two amounts in the original pamphlet, which we have not felt authorized to alter, as it was doubtful in which amount to make the alteration.

Bristol,	3,914	
Newport,	3,488	
Providence,	556	Rhode Island, 8,238
Warren,	280	
Baltimore,		750
Savannah,		300
Norfolk,		387
Hartford,		250
Boston,		200
Philadelphia,		200
New Orleans,		100
		18,048
Total,		39,075

NOTE BY THE COMPILER.

It would appear, from the foregoing, that of these importations of slaves into Charleston, there were imported by natives of countries and places now repudiating slavery,

Foreigners,	21,027
Citizens of United States,	14,605
	35,632
By citizens of slaveholding States,	3,443
Total,	39,075

2. INSURANCE RATES ON MISSISSIPPI AND TRIBUTARIES.

MINIMUM RATES ADOPTED BY THE BOARD OF UNDER-WRITERS, JULY, 1849, NEW ORLEANS.

RIVER RISKS BY GOOD STEAMBOATS—UPWARD.

	Per cent.
Mississippi River.	
To points not above Bayou Sara,	1/4
" " above Bayou Sara, and not above Natchez,	3/8
" " " Natchez, and not above Vicksburg,	1/2
" " " Vicksburg and not above mouth of White river,	5/8
" " " the mouth of White river, and not above the mouth of the Ohio,	3/4
" " " the mouth of the Ohio, and not above Alton,	1
" " " Alton, and not above the foot of the first Rapids,	1 1/4
" " " the foot of the 1st, and not above the foot of the 2d Rapids,	1 1/2
" " " the foot of the second Rapids, and not above Galena,	1 3/4
" " " Galena,	2
Illinois River.	
To points not above Beardstown,	1 1/4
" " above Beardstown, and not above the mouth of Fox river,	1 1/2
Ohio River.	
To points not above Louisville,	3/4
" " above Louisville, and not above Portsmouth,	1
" " " Portsmouth,	1 1/4
Cumberland River.	
To points not above Nashville,	1 1/2
" " above Nashville, and not above Gainesboro,	1 1/4
Tennessee River.	
To points not above Eastport,	1
" " above Eastport, and not above Tuscumbia,	1 1/4
" " " Tuscumbia and not above Knoxville,	1 1/2
Red River.	
To points not above Alexandria,	1/2

To points above Alexandria, and not above Natchitoches and Grand Ecore,.. 3/4
" " " Natchitoches and Grand Ecore, and not above Shreveport,..1
" " " Shreveport, and not above the foot of the Raft, ...1 1/4
" " " the foot of the Raft, and below White Oak Shoals,.....3
" " " White Oak Shoals, ...4

Arkansas River.

To points not above Post of Arkansas, ...1
" " above Post of Arkansas, and not above Pine Bluff,.....1 1/4
" " " Pine Bluff and not above Little Rock,.....1 1/2
" " " Little Rock, and not above Lewisburg,.....2 1/4
" " " Lewisburg and not above Spadra Bluff.....2 1/2
" " " Spadra Bluff, and not above Fort Smith, ...3 1/2
" " " Fort Smith,.....4

Missouri River.

To points not above Jefferson City, ...1 3/8
" " above Jefferson City, and not above Lexington,.....1 3/4
" " " Lexington, and not above Iatan, ...2
" " " Iatan, ...2 1/2

Alabama River.

To points not above Selma, ... 7/8
" " above Selma, and not above Montgomery and Wetumpka, ...1

RIVER RISKS BY GOOD STEAMBOATS—DOWNWARD.

Ohio River.

From points not above Cincinnati—On pork in bbls., lard and whisky,..... 1/2
On other cargo, except grain, and hemp, .. 3/4
On grain and hemp, ...1
From points above Cincinnati, and not above Portsmouth—
On pork in bbls., lard and whisky, ... 3/4
On other cargo, except grain and hemp,...1
On grain and hemp, ...1 1/4
From points above Portsmouth—On pork in bbls., lard and whisky, ...1
On other cargo, except grain and hemp,...1 1/4
On grain and hemp, ...1 1/2

Cumberland River.

From points not above Nashville—
On cargo, except grain and hemp, ... 3/4
On grain and hemp, ...1
From points above Nashville, and not above Gainesboro—
On cargo, except grain and hemp, ...1
On grain and hemp, ...1 1/4

On cargo shipped from the Ohio river and tributaries, on and after the 1st of July and before the 1st of November, and from the Mississippi river and tributaries above the mouth of the Ohio, on and after the 15th of August, and before the 1st of January, one-half of one per cent. additional premium to be charged.

No insurance shall attach on property shipped—upward or downward—after the first of October, 1849, on board of any steamboat on any of the tributaries of the Mississippi river south of the Ohio river, or tributaries of such tributaries, or bayous connected therewith, which boat shall not hold the certificate of the New Orleans Inspectors of Hulls—dated within the twelve months next preceding the shipment—of her fitness to carry cargo in the trade in which she is engaged.

☞ Specie, by steamboats, one-half the cargo rates.

RIVER RISKS ON COTTON AND TOBACCO.

Cotton, by Flatboats and Keels.

		Per cent.
1.	From places on Tennessee river and tributaries to New Orleans,	3
2.	" " " " " above Florence to Eastport,	1
3.	" " " " " not above Florence to Eastport,	1/2

4. From places on the Obion, Forked Deer and Hatchie rivers to N. O.,....3
5. " " as above to points on the Mississippi river not below Memphis,..1½
6. " " on the Tallahatchie river to New Orleans,.....3
7. " " " Taliahatchie river to Williams's Landing,.....1½
8. " " " tributaries of the Tallahatchie river to New Orleans,..4
9. " " " tributaries of the Tallahatchie river to Williams's landing,.....2
10. " " " Yalobusha river not above Grenada to New Orleans,..3
11. " " " Yalobusha river above Grenada and from tributaries of the Yalobusha to New Orleans,.....4
12. " " " Yalobusha river not above Grenada to Williams's Landing,.....1
13. " " " Yalobusha river above Grenada and from tributaries of the Yalobusha to Williams's Landing,.....2
14. " " on Big Black river to New Orleans,.....3
15. " " on Big Black river to Grand Gulf,.....1½
16. " " on the Little Missouri river to New Orleans,.....4
17. " " on the Little Missouri river to Camden,.....2

Tobacco, by Flatboats to New Orleans.

From places on Forked Deer and Obion river,.....3
" " " Tennessee river, below Muscle Shoals,.....2½
" " " Cumberland river, not above Nashville,.....2½
" " " " " above Nashville,.....3
" " " Green river, not above mouth of Barren, and from Barren river, not above Bowling Green.....2
" " " Barren river, above Bowling Green, and from Green river above mouth of Barren,.....3½

☞ It is understood that no risk is binding on cotton by flat or keel boats, from any places except on the Tennessee river and tributaries, until indorsed on the policy, or otherwise assented to in writing, by the insurers: and cotton by flat and keel boats from any points, except the Tennessee river and tributaries, shall be insured for only three-fourths of its value, the assured being his own underwriter for one-fourth. Cotton from the Tennessee river and tributaries, by flat and keel boats, may be insured under open policies, and for its full value: and should only three-fourths of its value be insured—the assured being his own underwriter for one-fourth—the risk may be taken at 2½ ℘ cent.

3. COAL TRADE OF OHIO.

It is almost impossible to estimate the amount of coal in the State of Ohio, for, rich as she is in her arable lands and in their vast product of grain, she is not more so in that than in her mineral resources. As population becomes more dense and the arts and manufactures increase, coal will constitute one of the most valuable sources of her wealth. The county of Tuscarawas, for instance, has 550 square miles, and it is stated that coal can be found on every mile of it. In Professor Mather's report on Geology it is estimated that Tuscarawas county has imbedded in it more than eighty thousand millions of bushels of coal. The Cincinnati *Atlas* says that in 1834 the coal trade had scarcely commenced in the county of Meigs, and this last year (1848) there was at least 2,500,000 bushels got out in that county. So also, at Nelsonville, in Athens county, no coal was exported before the Hocking canal was made; but in the current year (1848) the coal got out there reached near a million of bushels, which goes into the consumption of towns which before that time consumed no coal.

The following tabular view of the increased product of coal compiled from statistical documents, is nearly correct, for the years 1840, 1843, 1847, and 1848:

Counties.	1840. Bushels.	1843. Bushels.	1847. Bushels.	1848. Bushels.
Athens,	84,200	100,000	657,663	715,104
Belmont,	188,200	200,000	200,000	225,000
Columbiana,	163,000	200,000	200,000	200,000
Gallia,	15,400	30,000	40,000	45,000
Guernsey,	55,858	60,000	60,000	60,000
Harrison,	189,500	200,000	200,000	200,000

Holmes,	5,000	5,000	10,000	10,000
Jackson,	55,500	60,000	70,000	75,000
Meigs,	843,400	1,200,000	2,000,000	2,500,000
Monroe,	5,450	6,000	10,000	15,000
Morgan,	77,400	80,000	80,000	80,000
Perry,	34,190	35,000	40,000	40,000
Scioto,	41,100	40,000	45,000	45,000
Stark,	33,800	35,000	40,000	151,467
Summit,	254,040	361,805	1,287,170	1,837,377
Tuscarawas,	292,230	350,000	275,000	285,020
Wayne,	10,000	10,000	10,000	10,000
Washington,	34,000	35,000	40,000	40,000
Total,	2,382,368	2,907,805	5,084,823	6,538,968

In those counties where there are no public works, and no iron manufactures, the product of coal is estimated to remain nearly the same; because the consumption is local and domestic; but in those counties where the public works run, the increase is great, and we know what it is very nearly. So of the county of Meigs (on the river) we know very nearly its increase. The above table is nearly correct; but it is unquestionably something under the mark. To Summit county, we have credited the entire amount of coal cleared from the port of Akron; but it is probable that some portion of it came there by the Ohio and Pennsylvania canal, from places in the line of the canal. The general result is, however, nearly the truth.

The comparison of aggregates show that—

From 1840 to 1843, the increase was 24 per cent. From 1843 to 1847, the increase was 65 per cent. From 1847 to 1848, the increase was 28 per cent.

In the first three years, the *annual* increase was 8 per cent., in the next four years 16 per cent., and in the last year 28 per cent.! By the year 1860—eleven years—the coal production of Ohio will probably exceed twenty millions of bushels per annum, or three times the present amount.

The consumption of coal as an article of domestic fuel has very rapidly increased in the interior towns, as the following table of the receipts for consumption, at different points, will show:

	1843. Bushels.	1847. Bushels.	1848. Bushels.
Received at Cleaveland,	387,834	1,212,887	1,959,210
" " Newark,	10,000	56,200	50,200
" " Columbus,	64,185	155,362	293,696
" " Circleville,	22,532	38,800	65,209
" " Chillicothe,	27,470	131,151	223,153
" " Middletown,	8,334	31,784	45,815
" " Dayton,	27,800	64,495	89,273
" " Piqua,	1,420	5,075	6,088
Aggregate,	549,575	1,695,704	2,743,615

This is the consumption only of interior towns—excluding that of Cincinnati. Columbus, for example, has in five years increased the use of coal more than four fold. Chillicothe has in the same time increased eight fold. The coal used at Chillicothe is the Nelsonville coal, Athens county, and is of a very good quality, at a very low price.—*Buffalo Com. Adv.*

4. TRADE AND NAVIGATION OF NORTH GERMANY.

The following brief and in some respects necessarily incomplete review of the trade and shipping of the various States and territories of North Germany, more immediately exposed to the injurious consequences of a State of warfare, will perhaps be of more than usual interest under existing circumstances. It will place the Manchester Commercial Associations, which have taken the lead in impressing upon the Government, by memorial and deputation, the urgency and importance of bringing its accepted friendly mediation betwixt the contending parties to a prompt and peaceful issue, in possession of the more precise

facts and figures which an intelligent body of merchants will best know how and most opportunely to turn to account in furtherance of their objects. We began with Hamburg, premising th t the returns, which are the latest we have received, and assuredly the latest yet made public here, are not in all respects brought down to the same date. This default of completeness does not, however, materially affect the general view which it is desirable to present, or the considerations which it is calculated to suggest.

The number of vessels which entered the port of Hamburg from the sea during the quinquential period from 1840 to 1844, gives an annual average of 3,252, of 481,000 tonnage. These figures show an increase in the navigation of more than 125 per cent., in the space of thirty years. In the year 1845, a total of 3,990 vessels entered from the sea, viz., 435 coming from transatlantic ports; 1,566 coming from British ports; 1,989 coming from other ports of Europe. Of the values of the commodities imported in the same year by this mass of shipping, we have no specific returns; but, taking the maritime commerce, imports and exports together, at the same rate of proportion to the general commercial movement as in 1843, which comprised the traffic with the interior of Germany, inclusive of a portion of that through Altona, we should have about 22½ millions of sterling of sea borne trade upon a total aggregate movement of nearly 35 millions. As, however, 452 vessels more entered the port of Hamburg in 1845 than in 1843, whilst proportionally the sailings might be in the same ratio, the collective value of imports and exports by sea would probably be in excess also in the former year.

For the years anterior to 1845, we have more precise and abundant materials to work upon, without, however, being enabled to detach altogether the special movement of trade and navigation from the general movement, which comprehends that carried on by the Elbe and by land carriage. The sea and river navigation together show the following results for the years stated:

	1842.	1843.	1844.
Entries and sailings of vessels together,.	15,277	15,634	14,303
Tonnage, ...	1,373,843	1,382,973	1,273,608

The years 1841, 1842, and 1343, show a much greater shipping and trading activity than 1844. In 1841, the excess of shipping employed was equal to 148,477 tonnage, in 1842 to 100,175, in 1843 to 109,305 tons, more than in 1844. The entries and sailings for 1844 were thus distributed: Entries, 7,649, of 680,488 tonnage; sailings, 6,744, of 593,180 tonnage. In this movement of navigation the trade with Great Britain in 1842 employed 2,320 vessels, entries and sailings together, of 394,129 tonnage; but in 1844 only 2,187 vessels, of 383,775 tonnage. The country next in order for the importance of its connection by sea traffic with Hamburg, is Holland, which in 1842 had, inwards and outwards together, 802 vessels, of 57,225 tonnage, in the trade in 1844 reduced to 696 vessels, of 41,708 tonnage. The trade with Prussia, almost all by the Higher Elbe, occupied 582,000 tons, inwards and outwards, in 1842; in 1844, 496,052 tons. With Hanover, chiefly fluvial navigation also, the tonnage employed, inwards and outwards together, was 54,708 tons in 1842, and 46,515 in 1844. We have no returns separately of the maritime and fluvial navigation, but it may be stated, as a general approximation, that the latter enters for more than one-half into the whole number of vessels, with at least two-fifths of the total tonnage. The traffic by the Elbe was materially affected by the onerous tariff of duties imposed upon its navigation in late years. The commerce of Hamburg absorbs upward of 90 per cent. of the total navigation of the Elbe.

The commerce of Hamburg represented about the following aggregate values in imports and exports of merchandise by sea, river, and land carriage:

1842.	1843.	1844.
£35,600,000	£34,765,000	£34,010,000

For the last year cited, the returns for the others being omitted as superfluous and unnecessary, the total movement thus presented was made up of imports to the value of about £17,557,000, and of exports for £16,453,000. The following are the proportions in which the three countries which figure at the head of the list entered for imports and exports in the aggregate mass for 1844:

	Imports.	Exports.
Prussia, for	£4,621,650	£4,669,500
Great Britain,	4,852,500	3,367,250
Hanover,	2,280,250	2,880,000

The principal imports from Great Britain consisted of raw cotton, cotton yarns and fabrics, wollen fabrics, cutlery, iron and steel, and indigo. The chief exports from Hambug to Great Britain were raw wool, corn and flour, and cotton manufactures.

The importance of the trade with Hamburg to British interests may readily be estimated by these figures. It may be added, moreover, that, as the total effective shipping of Hamburg consisted, on the 1st of January, 1845, of only 205 ships of the aggregate burden of 50,937 tons, inclusive of eight steam vessels, of which five served on the Elbe, this most important traffic was carried on chiefly by, and all to the advantage of, British shipping.

5. COMMERCIAL STATISTICS.

The following tables of the exports from the United States and Great Britain to the countries therein named, during the years 1847 and 1848, we have compiled from official documents. One of the most marked features which they present is the falling off in the British trade to their West Indian and North American colonies, and the increase of the American trade with those places:

	1847.		1848.	
	U. States.	G. Britain.	U. States.	G. Britain.
Russia,	$626,332	£1,844,543	1,047,582	1,925,226
Prussia,	182,259	553,968	145,074	404,144
Sweden and Norway,	391,847	348,216	625,972	312,936
Holland,	1,885,398	3,017,423	1,595,450	2,823,258
Belgium,	2,874,367	1,059,456	1,989,764	823,968
Hanse Towns,	4,068,413	6,007,366	3,856,676	4,669,259
British East Indies,	237,783	5,470,105	510,289	5,077,247
British West Indies,	3,973,252	2,102,577	4,344,536	1,434,477
British Amer. colonies,	5,819,667	3,233,014	6,399,959	1,990,592
France on the Atlantic,	17,420,385	2,554,283	14,159,798	1,024,521
France on the Mediter'n,	1,172,146		1,215,087	
Spain on the Atlantic,	770,748	801,409	597,797	662,710
Spain on the Mediter'n,	1,188,340		1,741,474	
Cuba,	6,005,617	896,554	6,432,380	733,169
Porto Rico,	825,079	16,822	801,722	1,017
Italy,	1,056,023	1,811,638	1,101,113	2,212,351
Austrian ports	1,175,375	537,069	1,701,495	494,525
Turkey,	61,570	2,363,442	114,830	2,664,281
Mexico,	536,641	100,638	2,095,495	945,937
Brazil,	2,566,938	2,568,804	3,092,736	2,067,302
Chili,	1,461,347	866,325	1,703,625	967,333
Peru,	192,978	600,814	124,618	853,129
China,	1,708,655	1,503,969	2,063,625	1,445,959
Hayti,	1,187,017	192,089	935,586	88,067

For the years ending June 30, 1847 and 1848, the exports of domestic produce from the United States to Great Britain were to

	1847.	1848.
England,	$70,223,777	$62,928,024
Ireland,	15,397,698	2,452,426
Scotland,	3,645,460	2,455,426

The total value of our imports from the same countries for the same year were

	1847.	1848.
England,	$65,170,374	$59,763,502
Scotland,	1,837,014	1,666,694
Ireland,	590,240	415,923

The British exports to the United States during the year 1847 are officially estimated at £10,974,161; and in 1848 at £9,564,909.—*Washington Republic.*

6. TAXATION IN EUROPE.

The inequality of the operations of the system of taxation, as bearing upon the landed proprietor in England, and the possessor of other property, and the people at large, compared with that operation in other European countries, is evidenced by the following statement:

In England, the annual tax on land is	£ 1,531,916
" " " on the people,	23,186,760
In Prussia, the land pays	3,999,500
" the people,	3,761,500
In Austria, the land pays	8.700,000
" the people,	7,700,000
In France, the land pays, unascertained—but below	10,000,000
" the people,	17,123,240

7. BRITISH COMMERCE.

A lately published Parliamentary document presents the following facts. The total declared value of British and Irish produce and manufactures exported from the United Kingdom to various countries, was, in 1847, £58,842,277; in 1848, £52,849,448.

The British Colonies took	£14,588,397	£12,654,183
The United States took	10,974,161	9,584,909
The Hanseatic towns,	6,007,366	4,669,250
Holland,	3,017,423	2,823,258
France,	2,554,283	1,024,521
Russia,	1,844,543	1,925,226
Turkey,	2,576,989	2,858,179
China, Hong Kong,	1,503,969	1,445,959
Brazil,	2,568,804	2,067,302
Mexico, Cent. and S. America (ex. Brazil),	2,505,855	3,761,743
Foreign West Indies,	1,410,221	1,010,138
All other countries,	9,290,366	9,024,780
	58,842,277	52,849,448

One striking fact developed by this statement is, that, next to her own Colonies, the United States is the best customer Great Britain has; taking more than one-sixth of her entire amount of exports, and more than any two of her next best customers! We may also trace in these figures the disturbing effects of the political events of 1848. Continental revulsions, anarchy, want of confidence, and national exhaustion, reduced the trade to France, Prussia, the Hanseatic towns, Germany and Belgium, from £13,192,496 to £9 745,150. The collapse in the East Indian and the Colonial markets reduced their trade from £11,02 ,259 to £8,671,624. Our exports to the United States fell nearly £1,500,000, caused principally, no doubt, by the extraordinary exports of 1847, consequent upon our large imports that year, and which were correspondingly reduced in 1848. The total reduction of our exports in 1848, compared with those of 1847, was £5,992,923, a very striking comment upon the history of that year of revolutions, and for which it would require a great deal of progress in true national liberty and independence to make ample compensation. The state of your cotton crop still engages much of our attention, and a good deal of anxiety is expressed respecting its adequacy for our supplies. In the mean time, a more than usual quantity is finding its way from the East Indies. A shipment of six hundred and sixty-three whole bales, per the ship George Buckhans, from Bombay, is advised, said to be of a very superior quality.

DEPARTMENT OF INTERNAL IMPROVEMENTS, MINING, &C.

1. ANOTHER SOUTHERN FACTORY.

A VERY pretty sample of cedar pails was shown to us on Saturday last, by Mr. John S. James, to whom it was sent with an inquiry as to whether an order for a supply of them could be filled in this place. They bear the stamp of the Alabama Manufacturing Company, Butler county, Alabama, a factory established for the sole purpose of making this article out of the red cedar, a most beautiful and durable material. The specimen to which we refer, is a water bucket of heart cedar—bound with brass hoops, and with a brass handle fastened on each side by a kind of spring. The bottom is of one entire piece, and the whole article, both for convenience, finish and use, is far superior to the northern for which there is such a demand. The price, too, is much lower for the Alabama article, as we lean that they can be had at the factory, brass bound, for $9,50 per dozen, or iron-bound for one-half that price. The freight upon them if sent out in nests would not amount to a great deal, certainly not to as much as for those sent from the North.

Would it not be worth while for the dealers in such wooden ware to get out a supply of these pails from the factory, and try the experiment of competition with the northern article?

We really think, independent of the pleasure of fostering southern industry, that it might be made to pay most handsomely, for both the material and workmanship of these pails reflect great credit on the Alabama Manufacturing Company.

The more such enterprises are encouraged, and labor diversified, the better for the South socially and politically.—*Columbia (S. C.) Telegraph.*

2. PENNSYLVANIA AND HER RESOURCES.

We copy the following condensed view of the resources and prospects of Pennsylvania from Bicknell's Reporter, an able commercial paper published in Philadelphia. It is gratifying that the condition of the great central State of the Union will justify such a flattering picture of her capacity and prospects:

"OUR STATE, OUR POSITION, AND OUR RESOURCES.—There is no part of the Union more richly endowed with the natural resources of permanent prosperity than the State of Pennsylvania. Although this is a subject which has frequently occupied the columns of the press, we propose to consider it in a single and comprehensive view. The geographical portion of the State is, in the first place, highly favorable to the successful prosecution of commercial enterprise, while it is situated midway between the North and the South, with an open navigation from its shores to the valley of the Mississippi, through the Ohio river and the north-western lakes, and also to the ocean. Its climate is mild and healthful, and our public works, composed of railroads and canals, traversing its most important sections, constitute convenient avenues for the transportation of every species of merchandise, both to and from the Atlantic frontier.

"Pennsylvania possesses, as the basis of its resources, a broad and public domain, yielding all the products of the middle States in great abundance, abounding in large quantities of lime, especially adapted to the fertilization of the land. And it will hardly be questioned that agricultural enterprise is here prosecuted with a skill and success which render its market equal to any in our own country or in Europe.

"But it is in the great amount of its mineral wealth that the State is more especially distinguished from any other part of the country. The vast beds of bituminous and anthracite coal which it contains, and its mines of iron, render its resources much greater in this respect than any other State of the Union. It is, we presume, generally known that the great mass of the anthracite coal, which is employed throughout the country, is here mined to the annual amount of about tweve millions of dollars. The other species also supplies a large quantity to the manufacturing enterprise of Pittsburg and other places. Indeed, our vast supplies of coal and iron, render Pennsylvania a, not to say *the*, prominent workshop of the country. In order to be convinced of this fact, we need only to look at the industry of the State which is employed in mining and manufactures, and the amount of coal and iron, raw and manufactured, transported to the city of Philadelphia.

"The progress of the coal trade of the State is a subject of some interest and importance. From a pamphlet, which would appear to be entitled to credit, since it was prepared by an associate editor of the Miners' Journal—a paper which is largely devoted to the interests of the coal and iron trade—we learn that as early as the year 1776 several loads of anthracite coal were dispatched down the Susquehanna, it having been used in the shops of blacksmiths previous to that period. Companies for mining and transportation were soon formed, and in 1820 three hundred and sixty-five tons were first sent to market. In order to exhibit its advance for the last four years, we subjoin the following table, for which we are indebted to public documents:

Years.	Tons.
1845,	2,002,877
1846,	2,333,494
1847,	2,970,597
1848,	3,063,503

"There is, also, in Pennsylvania, an abundant water-power which operates or propels numerous manufacturing establishments of woolen and cotton, and in the amount of those products which are furnished, the Keystone stands among the most important States. It is distinguished, also, for the skill and elegance with which the more ornamental kinds of mechanical work are here executed. It moreover possesses in its quarries of pure white marble, a material peculiarly adapted to architectural decorations, and of no little value, when we consider the prospective improvement of a State which now possesses an amiable, industrious, moral, and reflective population of nearly two millions."

3. GRANITE AT THE SOUTH.—No. 1.

BY A CHARLESTON WORKING MAN.

Messrs. Editors—The interest manifested on your part, by publishing in the *Telegraph* an extract from a recent private letter from us—in which some suggestions were briefly and hastily made, with reference to the supply of granite, from the quarries of Richland, for the projected new custom house in this city—has induced us to examine the matters therein alluded to with some care; and we propose, through the columns of your valuable journal, to present to your readers, the results of those investigations. In doing so, we shall aim to be as concise, plain, and practical as possible, with the hope, that the facts and considerations presented, will result in inducing some enterprising citizens of Richland, Lexington, Newberry, or Fairfield, to put their hands to a work, which, if prosecuted with ordinary skill and care, must be productive of untold wealth. If we could suppose for a moment, that these efforts will but stimulate that "eternal talk" about what we in South Carolina can and ought to do, we should cast away our pen in utter despair, as we firmly believe that there never was a field of enterprise more inviting and promising than this is—under the peculiarly favorable circumstances which now present themselves; but we are unwilling to believe that there is so little of public spirit in our citizens, as to permit the importation of granite for the Charleston custom house from abroad, when we have it so clearly within our power to supply the best article—equal even to the far famed Quincy stone—at such a price as will pay the quarrier an immense profit, and at the same time utterly defy northern competion. There are now in this city, northern men, who regard with eager watchfulness every movement that is made with reference to this magnificent job; owners and agents of northern quarries resident here, are sharply on the look out, and every effort will be made by them to secure the contract for the granite. Not only do they see in this single building a prize worth contending for, but they are shrewd enough to perceive also, that if such materials are supplied from our own soil, they may at once bid a long farewell to all their southern granite trade; for the proof once made, that we can supply it cheaper than they, we become the exporters of it, at profit to ourselves, instead of importers, as heretofore, at exorbitant rates.

The citizen of South Carolina who shall develop this most important resource of the State—by supplying the granite for the custom house—a structure which, in extent, and the imposing character of its architectural adornments, will far supass any other building within our borders, will thereby erect for himself

a monument as creditable and enduring as the noble pile itself, and his name will be handed down to future times, as a public benefactor.

But we have no need or desire of enlisting in this behalf, feelings of State pride or patriotism; we propose to look into it simply as a matter of dollars and cents, and think we shall be able to demonstrate, beyond a doubt, that we have it fairly and fully within our power to command the contract.

In commencing the quarrying of granite as a new business, the object of first importance is to secure a contract of sufficient extent to warrant the outlay necessary to the opening of the quarry—for the supply of machinery and fixtures, and, in some cases, for the erection of a railway, cars, &c., to communicate with the main channel of conveyance to a market, or point of shipment. The expenses of this character vary materially, according to the situation of the quarry, and other attendant circumstances. In some cases excavations have to be made to a great depth, and much difficulty is experienced in keeping out the water, providing for its egress—when the dip or inclination of the rock admits of a regular flow, or raising it by the continued and expensive use of the steam pump—effectual drainage being indispensable to the advantageous working of a quarry. Another source of considerable expense, the extent of which, however, is always uncertain and in some cases of good luck is almost entirely avoided, arises from the nature and depth of the rock superincumbent to that which is to be worked for market.

Those portions of a bed which lie near the surface are sometimes mixed with foreign matter, or traversed by fissures and cracks, and always so weather worn, to a greater or less extent, as to impair their value or render them useless. At one of the Quincy quarries, partly owned by an enterprising northern gentleman residing in Charleston, it is said the expense attending this kind of preliminary quarrying was nearly or quite ten thousand dollars. Well, the quantity of stone requisite for this vast building is such as to warrant the contractor for it in expending even more than ten thousand dollars if necessary, in preparing his quarry for use, at such a location as will be most advantageous to him in view of demand and transportation; but, fortunately for the owners of granite acres in your vicinity, there is no necessity for any such outlay.

We are fully convinced, from personal observation of this precinct, that at several places on the line of the Greenville railroad above the town of Columbia, and on the river both above and below it, granite of excellent quality can be found so situated as to be conveniently worked to any extent and landed in the cars, or on boats, simply by the use of an ordinary derick. This contrivance, though in common use, may not be understood by all; we therefore describe a derick—as a mast or spar set up on end, and kept so by means of three or four ropes, extending from the topmost point, and fastened in the ground, from the lower part of which another spar or boom extends out horizontally many feet, and by means of which latter, a stone, after having been raised by a windlass and pullies to any required height, may be swung round and deposited on any desired spot—not distant more than double the length of the spar from the place of original removal. "The Quincy stones are raised from their beds by means of a windlass worked by a horse, and received upon cars which are run to within a few feet of the quarry; from thence they are conveyed to the water on a railway, and transported in various directions. By the descent of a loaded car on the inclined railway at the quarry, an empty car is drawn up."

We now proceed to consider the facts which indicate our ability to compete, profitably to ourselves, with northern contractors for the supply of granite in Charleston. But before doing so, we may not unwisely look around us, in order to determine at what particular point in the State we can do best—in view of the quality of the stone, the facilities afforded for working and delivering it at the smallest cost, and the means of conveying it to consumers at the least expense. We think we shall be able to show that, in every aspect of the case, Richland is the favored spot—that nature and art have united to render the vicinity of Columbia, the Quincy of the South. South Carolina is emphatically the home of the geologist. Every foot of her area exhibits, either on the surface, or not far below it, formations which invite his investigation, and there are but few spots of similar extent in the whole world that equal this in the extent, value and variety of their mineral productions.

This declaration is not less true than it will be startling and incredible to ma-

ny ; but the verification of it is abundantly attested in the geological history of the State, and suggests reflections profoundly humiliating to us, in view of that lack of energy which has heretofore, and does even now, deprive us of the benefits of these rich gifts of nature. The State is about equally divided between the primitive, or granitic, and the alluvial regions—according to McClure's system. The latter extends about one hundred miles from the coast, is bounded by a line nearly parallel with it, and embraces those formations designated by Professor Tuomey as the tertiary, besides one, viz., the cretaceous, of the secondary.

The other and upper half of the State is almost entirely underlaid by rocks of metamorphic and plutonic character. In the tertiary class is found the lower eocene on buhrstone formation, which underlies a large portion of each of the districts of Barnwell, Orangeburg, Lexington, and Edgefield, and in the upper part of the two latter districts the granitic region is reached. The upper half of the State abounds with primitive rocks, stratified and unstratified, adapted to all the various purposes of building, and possessing, in many cases, rare and peculiar qualities, which admirably adapt them to purposes of utility. It would consume too much space here to expatiate upon the extraordinary variety of building stones to be found within this limited space, and the valuable and rare characteristics of many of them; but we cannot forbear noticing the singular fact, that, whilst this region embraces nearly every stone formation that is found in other States, both North and South of us, it is the terminus, southwardly, of one variety of building stone, of secondary formation, which is now much used and prized for architectural purposes. "A strip of this rock, the new red sand stone, which extends (says Professor Tuomey), with little interruption, from Massachusetts, through Connecticut, New Jersey, Maryland, Virginia and North Carolina, *terminates* in Clay creek, Chesterfield district, about four or five miles from the line." It is of this beautiful and durable stone that Trinity church in New York is built, and the buildings of the Smithsonian Institute in Washington are being constructed of the same.

But we must not permit ourselves to wander, through these paths of pleasing exploration, away from the subject matter of our epistles.

It is of granite that we propose to write, and we come now to a consideration of what granite is.—*Telegraph.*

4. PROGRESS AND PROSPECTS OF SOUTHERN RAILROADS.

At the late meeting of the railroad convention at Macon, Georgia, for the construction of a railroad connecting with the Georgia road, and this with Augusta and Charleston, South Carolina, a valuable report was submitted by the delegates from Bibb county, from which we extract:

"The State of Georgia has expended from her public treasury, and through the munificence of private individuals, nearly *thirteen millions* of dollars for purposes of internal improvement, and will soon have in successful operation over seven hundred miles of railroad. These expenditures have been made under a system which was adopted by a convention which assembled in Macon, in the year 1836. That system contemplated mainly a connection between the South Atlantic ports and the great valley of the Mississippi. It has been prosecuted vigorously and unremittingly, alike by the State and her citizens; and while the great enterprise is yet on the eve of completion, we witness its happy effects upon the landed and industrial interests of the State, as well as its especial influence in yielding prosperity and wealth to the cities of Savannah and Charleston.

"So far as Georgia is concerned, the great enterprise of connecting the Atlantic with the West may be regarded as having been triumphantly accomplished. Tennesse has taken up the work, and is urging it forward with such vigor, that, in a few years, we will have a continuous iron way from the Atlantic to the banks of the Upper Mississippi. Another route is in contemplation, by way of Rome, Georgia, to Memphis, Tennessee; and a third, stretching into East Tennessee and Western Virginia, is already in process of construction.

"While Georgia has been earnestly engaged in this great enterprise, other States have been equally active in their efforts to construct a great traverse thoroughfare from the extreme North to the extreme South. An almost continuous road has been constructed from Portland, in Maine, to Wilmington, in North Carolina, and the citizens in that region are, with a spirit of becoming enterprise, actively engaged in grading a tract from Wilmington to Manchester, upon the Columbia branch of the South Carolina road. This will complete an almost continuous

and direct railroad communication as far as the eastern boundary of Georgia. It has, therefore, become necessary that the State should be crossed from East to West. The public interest and public convenience demand it—the progressive spirit of the age demands it—the interests of nearly all the railroad companies of Carolina, Alabama, and Georgia, demand it. Candid, sagacious and liberal minded men, stand ready to sacrifice their private prejudices and private interests for the public good.

"The object of our citizens and city authorities in calling this convention and inviting gentlemen from abroad to participate in its proceedings, was and is, to present certain considerations showing that the contemplated crossing should be made through the city of Macon—that such a road, if properly located, would pay a handsome return to the stockholders, and develop valuable resources—that it would be an important feeder to the other railroads, and add materially to the wealth and prosperity of those commercial marts which may aid in its construction.

"The two railroads which terminate in Macon, during the last year transacted a business worth about eight hundred thousand dollars. The receipts of cotton, in the warehouses and *in transitu* at Macon, during eleven months ending on the 31st ultimo, amounted to nearly 165,000 bales. It is confidently believed that, when the South-western road is put into operation even to the Flint river (by October, 1850), it will add 50,000 bales to the annual receipts of this place. The impression seems now to be universal, that the Columbus road will unite with the South-western either at Flint river or Fort Valley. This will add from 60 to 70,000 bales more to the annual receipts of Macon. It is apparent, therefore, that, in a few years, Macon will be the largest inland cotton market of the South, having an annual receipt of from 250,000 to 300,000 bales. This will not be deemed an extravagant calculation, especially if we consider the inexhaustible fertility of the soil in the South-west and the immense extent of country yet to be brought into cultivation. With such an immense amount of cotton concentrated at Macon, her carrying trade will become immensely valuable, and an opportunity to compete for it, on equal terms, will be equally sought after by all capitalists and merchants of enlarged and liberalized views. Nor will her return trade be less an object of attraction. The concentration of so large an amount of cotton will naturally accumulate capital at this point, stimulate extensive purchases of grain, bacon, dry goods, groceries, plantation supplies, &c.

"Here, then, is a rich prize—one which cannot fail to invite a spirited competition among the rival monied and mercantile interests of the South. Savannah has, thus far, enjoyed a partial monopoly of this trade; and, while we have no disposition either to undervalue her enterprise or disregard her prosperity, we feel that our own personal and pecuniary interests prompt us to invite a fair and honorable competition from another quarter. We feel that we are the more justified in pursuing this course from the fact that during a portion of the last business year, the motive power upon the Central road was wholly inadequate to the prompt transaction of all the business which offered; and from the further fact, that, notwithstanding this inability to transact the business at Macon, the board of directors persisted in a sytem of unjust discrimination in freights, against the Macon merchants, for the purpose of attracting business from points beyond. This was the more to be deprecated, because it tended to build up rival towns, which had contributed nothing toward the construction of the Central road, and to injure the people of Macon, who had actually, in their corporate capacity, incurred a debt of $250,000 to aid in the completion of that work. In addition to this, the people of Macon afforded no inconsiderable assistance to the enterprise by means of private subscriptions, and have borne faithfully the burthens of an onerous taxation for the last twelve years. These evidences of fraternal regard, on the part of Macon, ought to entitle her merchants and people to the favorable regard of the Central company, or, at least, to have secured to them equal privileges and advantages with the merchants of those towns which contributed nothing toward the construction of the Central road.

"Macon, then, has the trade; but having exhausted her means in the construction of other works, she is not now in possession of funds sufficient to justify her in attempting, alone, the opening of a direct communication with the Georgia road, and with the cities of Augusta and Charleston. She has subsequently thought it proper to invite the assemblage, at this point, of delegates from dif-

ferent sections, for the purpose of conference and deliberation. Though poor, she is willing to incur her full share of the expense of the undertaking. Confident that she enjoys unparalleled advantages of position, she is nevertheless willing that others should share liberally in the benefits to be derived from the enterprise.

"The proposed road will form an important link in the great iron chain destined soon to connect the North Atlantic cities with New Orleans. Its completion will have a direct influence in urging forward the South-western road to its proposed terminus at Pensacola. That this route will become the great thoroughfare of travel, will be apparent from the following statement of distances, viz:

From Augusta to Atlanta,	171	miles.
" Atlanta to Montgomery,	168	"
" Montgomery to Mobile (river),	327	"
" Mobile to New Orleans,	159	—825
From Augusta to Macon,	145	miles.
" Macon to Pensacola,	280	"
" Pensacola to New Orleans,	180	—615

"The difference in favor of the Macon and Pensacola route, therefore, is 210 miles. It follows that the South-western route would not only have the preference over any other inland route, but that it would successfully compete even with the Mississippi river, for the travel of the entire Gulf region, embracing central and west Florida, south Alabama, Mississippi and Louisiana, as well as Texas and Mexico. This travel, when concentrated at Macon, must necessarily be entirely lost to the Georgia road, unless directed across the country by some such route as is proposed. The unparalleled success of the Savannah steamers. in competing for through travel, even at present, should warn Augusta and Charleston of their impending fate, provided they neglect to guard against the influences of the South-western road when completed.

"Nor is this all. It now seems to be generally conceded that the Columbus company will join the South-western at Fort Valley, or at some point further West. This will leave only a few miles to be constructed from Columbus, West, in order to complete the line of railroad from Macon to Montgomery, Alabama. Travelers, as a general thing, will always give a preference to those lines which pass through the largest cities, and the most productive cotton region. Nor will the travel upon this route be an insignificant item. A railroad is already in operation from Vicksburg, by way of Jackson, to Brandon, Mississippi, and vigorous efforts are now being made to extend it to Montgomery, Alabama. This road will traverse the most wealthy and densely populated sections of Mississippi and Alabama. It will also attract no inconsiderable amount of travel from upper Louisiana, upper Texas and Arkansas. It will be a grand thoroughfare for emigrants, as well as business men, and will of course contribute something toward the support of the Columbus road, as well as the proposed line from Macon, toward Augusta.

"Should this system of roads be perfected, as it undoubtedly will in a few years, Macon will be connected by railroad with Savannah, Charleston, Augusta, Athens, Knoxville, Nashville, Memphis, Vicksburg, Montgomery, Columbus, and Pensacola. She will, in fact, be the common point to which nearly all the great southern improvements will tend. To use perhaps an extravagant expression, she will become the great *turning table* of the South. With the amount of cotton which we have estimated her to receive, and the amount of travel which she will necessarily enjoy, we cannot doubt that her increase in population, prosperity and trade, will be such as to enable her to contribute largely toward the support of a direct road to Augusta and Charleston."

5. PLANK ROADS AT THE SOUTH.

REPORT OF THE COMMITTEE OF FIFTEEN, ON THE ESTALISHMENT OF A PLANK ROAD FROM TUSCALOOSA TO ROUP'S VALLEY.

Since the appointment of the undersigned as a committee to gather information in respect to plank roads, and to report the same to the present meeting, they have had no opportunity of entering into a correspondence with those who have

a practical acquaintance with the subject, and have been compelled to found their report upon such information as could be collected from previous publications. But the very recent introduction of plank roads into the United States, renders this source of information quite meager and unsatisfactory. On this account, however, the undersigned have been extremely cautious in making their estimates, lest they should deceive themselves, and thus lead others into error. Wherever expenditures are required, whether in money or labor, they have purpurposely exaggerated the amount that seemed to them necessary for the accomplishment of the work: and whenever income and profit are expected to be derived from the contemplated improvement, they have reported the supposed minimum value. By this precaution, they have hoped to make up for their inexperience in estimates of the kind, and to report results that will challenge public confidence.

There are, however, some general reflections connected with the object of this meeting, to which we desire to call your special attention.

1st. In the first place, no mineral deposits have contributed more largely to the comfort of mankind, to the extension of the useful arts, to the progress of invention, to the increase of national wealth, and to the advancement of civilization, than those of coal and iron. This is emphatically the age of steam. We are making it, in every branch of industry and art, perform the labor of both man and beast. It is as yesterday only, that steam has been employed as a motive power, and yet it furnishes a force estimated at more than 10,000,000 of horses (or 60,000,000 of men).—[*M. M. Chevalier.*] And when we consider that three out of every four persons are women, children or infirm, we may safely say that steam, as a prime mover of machinery, is now spinning more cotton and wool, weaving more cloth, molding and polishing more metal, than can be done by all the laborers of the earth, with such hand implements only, as were used at the beginning of the present century. At the foundation of this wonderful development of the agency of steam, lie the deposits of coal. So truly is this the case, that those vast improvements in the construction and propulsion of machinery, which distinguish the present age, have been restricted to those countries that possess an adequate supply of this valuable mineral. Geography and political statistics both prove, that manufacturing and productive industry, flourish only in those countries where coal and iron abound. The declaration of McCulloch in respect to England, is at once just and instructive on this point. "Our coal mines," says he, "are the principal source and foundation of our manufacturing and commercial prosperity: and no nation, however favorably situated in other respects, not plentifully supplied with this mineral, need hope to rival those that are, in most branches of manufacturing industry. To what is the astonishing increase of Glasgow, Manchester, Birmingham, Leeds, Sheffield, &c., and the comparatively stationary or declining state of Canterbury, Winchester, Salisbury, and other towns in the south of England, to be ascribed? The abundance of coal in the North, and its scarcity and consequent high price in the South, is the real cause of this striking discrepancy. Our coal mines have conferred a thousand times more real advantage on us than we have derived from the conquest of the Mogul Empire, or than we should have reaped from the dominions of Mexico and Peru."

2d. In the second place, the value of coal as an article of commerce, is strikingly illustrated by the rapid increase in its trade, as well also as by the magnitude of the expenditures made to transport it to the various points of its consumption. No other mineral could have justified so large an outlay in its development. Let us briefly consider, in this point of view, the development of the Schuylkill coal basin in the State of Pennsylvania. "It is only of late that great facilities of transport have been enjoyed by this region, for the Schuylkill canal was at first a very inferior work. The *visionary* men (so called at that time), who originated it, hoped that 30,000 tons of coal per annum might pass over their line to market, and yet they lived to see it transport, in 1841, 584,000 tons of coal and 116,000 tons of other miscellaneous trade: 700,000 tons in all. What a glorious reward for their enlightened enterprise! But the capacity of this canal has been increased *nine times* that, when originally opened to the trade. But all this would not satisfy the demands of the public and the increasing consumption of an article of first necessity, and hence human ingenuity was called upon to devise some other mode of transport, better fitted for the purpose. This

has been furnished in that magnificent and unrivalled work, the Reading railroad. It has been entirely successful and is destined *yearly* to exhibit better and more perfect results. But let us look at the result upon this road, as it respects the trade in coal alone.

Years.			Tons.
1842,	Amount transported,	.....	49,296*
1843,	"	"	240,237
1844,	"	"	441,391
1845,	"	"	826,237
1846,	"	" 1,239,143	
1847,	"	" 1,356,008	

But besides these two grand improvements, other roads have been constructed to develop this portion of the coal basin, the whole amounting to $23,635,000, and paying a dividend in some cases [the Reading road] as high as 12 per cent. per annum. Upon the Lehigh region the expenditure has been 14,590,340 75, making in all for eastern Pennsylvania alone, the sum of $38,225 340 75. What trade, but that of coal, could have warranted such an enormous outlay of money, and have given so large a dividend in return. And so it has been in other parts of the United States, as well as in England, France, Belgium and Prussia. Coal has more largely remunerated the public for expenditures upon its development, than any other article of trade whatsoever. Why then should we deem nature unbountiful to this portion of Alabama, in denying us the fertile cane-breaks and prairie lands of the middle counties, while she has afforded us an equally rich and far less precarious source of wealth in our iron and coal.

Could we exchange these mineral deposits for the *gold placers* of California, we trust you would not have the folly to do it. For, to say nothing of the superior industry, activity, and moral and intellectual culture of the inhabitants of coal and iron producing and consuming countries, it is very easy to show in figures, that the trade in coal alone, is vastly more profitable than the mining and working of the precious metals. Humboldt, in 1800, reckoned the annual produce of the gold and silver mines of North and South America at $43,000,000.

From 1810 to 1830, the annual average product did not exceed, $22,000,000; from 1830 until 1845, the annual product did not exceed $25,000.000.

Since the discovery of the mines in California the amount has swelled, perhaps, $5,000,000 more; so that the present annual product of gold and silver, does not exceed 30,000,000.

Now the product of the British coal mines alone is 96,000,000 per annum; and that of her iron ore is $82,280,000, making together $178,280,000, or six times that of the gold and silver of both the Americas. Instead then of coveting the advantages of other sections of the country, let us consult our true interest in developing our own. And that we may duly appreciate our resources, let us briefly notice the extent and quality of our coal and iron deposits.

1st. THEIR EXTENT.—That portion of the Warrior coal basin, in the development of which this meeting is more particularly interested, begins at the city of Tuscaloosa, and extends up the left bank of the Warrior for more than twenty miles. It is found upon all the tributaries of that stream within the distance mentioned, and approaches, in the neighborhood of Murphy's, to within two miles of the iron beds. In all this space the coal is everywhere exposed to view in the gorges of the water courses. Between Tuscaloosa and the head waters of Hurricane, a distance of twenty miles, there occur, in the opinion of Prof. Tuomey, who explored this region in the summer of 1847, no less than ten distinct beds of coal, "varying in thickness from one to four feet: of these, *three at least are workable beds*; that is, beds, in which a man can work under ground and extract the coal without removing the shale or overlaying rock." He further adds, "it is a common mistake with persons unacquainted with practical mining to suppose that the value of a coal bed increases with its thickness: it is never desirable that it should exceed six feet, and four feet is quite a convenient thickness. It must be borne in mind, that my observations have been altogether confined to natural exposures and sections and that consequently, future explorations, particularly by boring, may bring to light more numerous and thicker beds, but

* Bankers' Magazine, Vol. III, No. 3.

they cannot fall short of what I have indicated."—[Prof. Tuomey's Letter to the Trustees of the University.]

In respect to the deposit of iron ore, the Professor remarks: "We now, for the first time (at Esq. Moore's) begin to see indications of the iron ore of this formation. A little south of the 28 mile post, the ore is piled up in the fields in heaps, and in a ravine not far distant, a heavy bed of brown hematite is laid bare. At Murphy's the same bed is seen again, presenting a thickness of thirty or forty feet, and near the spring it is uncovered to a sufficient depth to show that it is coextensive with the rocks of this group. At Tannehill's the ore presents its greatest development, the bed being at this point not less than seventy-five or one hundred feet in thickness. I have rarely seen a more favorable mining ground, and certainly not one where ore can be procured with so little labor."—[Tuomey's Letter.]

2d. The Quality of our Coal and Iron.—The iron ore is the hydrous peroxyd, or brown hematite, which when pure yields about 60 per cent of metal. "It is of the very best quality, abounding in the cellular varieties, which are known to work freely."—[Professor Tuomey.]

Our coal is of the bituminous kind, and as far as we have data for forming an opinion, it is the best of its kind.

We have an analysis of our coal reported by Sir Charles Lyell in the Journal of the Geological Society of London. We give it below together with that of coal of other localities in the United States.

State.	Locality.	By whom analyzed.	ANALYSIS. Carbon.	Volatile matter.	Ashes.
Virginia, ...	Colver Hill,....	Johnson,.....	54.83	33.04	10.13
"	Mid Lothian, ..	"	53.01	33.25	14.74
"	Black Heath,...	"	58.79	22.57	8.64
Maryland, ...	Frostburg, ...	"	74.53	15.13	10.34
"	Georges creek,..	"	70.75	16.03	13.22
Pennsylvania,	Blossburg,.....	Clemson,.....	73.74	15.00	11.26
"	"	State Rep.,.....	62.80	32.80	5.20
Alabama,....	Tuscaloosa,....	London Jounal,..	80.96	12.96	6.08

By this analysis it appears that the Tuscaloosa coal is not surpassed by any bituminous variety in the United States. It has more carbon than the Frostburg coal, and almost an equal amount of hydrogen, oxygen and nitrogen, and yet, in an elaborate report "to the navy department of the United States on American coals applicable to steam navigation and to other purposes, by Professor Walter R. Johnson," we find the Maryland coal set down as the very first in the series, in the order of evaporating power under equal bulks. There cannot exist a doubt, therefore, if analysis is to be relied on, in respect to the very excellent quality of the Tuscaloosa coal.

The locality of our coal gives it a peculiar value. It is the terminus of the great Appalachian coal measure. It is nearer to the Gulf of Mexico by several hundred miles, than any other source of supply. It is penetrated by a river, navigable by steamboats, to the lower margin of the basin.

There are also peculiar facilities for working our coal seams. The dip of the strata never exceeds ten or fifteen degrees, and is always toward the valley of the river. No arrangement could be more favorable for gallery mining, and for easy drainage of the pits. Besides, there is an entire absence of all those disturbing causes, so productive of fruitless labor and expense in coal mines, and in mining language significantly called "troubles." I have not seen, and I looked for them with care, a single dislocation or a trap dyke throughout the region I examined.—[Professor Tuomey.]

Besides these rich and favorably situated beds of coal and iron, the latter are associated with immense strata of limestone, which, besides serving the purpose of reducing the ore, yield lime of an excellent quality.

And now, what has been done toward developing these unrivaled resources of mineral wealth? Literally nothing! From the best information obtained, the product of this coal field does not exceed 7,000 tons per annum; and this quantity it has yielded only within the past two or three years. Why has not capital been directed toward this certain source of wealth? Because the coal does not pay a profit in the present mode of getting it to market.

A portion of it is hauled from two to eight miles to various points on the Warrior which cannot be reached by steamboats, on account of the numerous shoals and falls at and above the city of Tuscaloosa. It is then shipped upon flatboats, which have to await the floods of winter, in order to be floated off to Mobile. These boats cost from sixty to seventy dollars each, and sell in Mobile, after delivery of coal, for not more than five or six dollars. The rest of the coal is wagoned over an ordinary country road, badly graded, and seldom repaired, an average distance of fifteen miles, to be consumed in the parlors and factories of Tuscaloosa, at an average price of 11 cents per bushel. The cost of the coal at the pit's mouth is 3½ cents per bushel, 1 cent for the coal itself in the earth, and 2½ for raising it. The cost of hauling it fifteen miles, is put down by our most experienced dealers in coal, at 6 cents, which leaves but a cent and a half profit to the seller. It is not surprising, therefore, that capital has never flowed in this direction, and that the trade in coal has been almost entirely confined to those having farms at places where the coal strata are denuded and exposed to view, and who appropriate their labor to raising and hauling it, when nothing better can be done.

The iron trade labors under still greater disabilities on account of the increased distance of the ore, from steam navigation, and is mostly confined to the supply of the smith shops in the neighborhood of the beds.

Now, to remove all these hinderances and drawbacks upon the coal and iron trade of this vicinity, it must be obvious to the least reflecting mind, that a mode of transportation, from the pit and the furnace to steamboat navigation, at once cheap and commodious, must be provided. A railroad passing through the heart of the coal, and terminating in the iron regon, would most perfectly secure all the objects desired. But the coal and iron lands are, for the most part, still the property of the goverment. Those that have been entered are generally held by persons of small capital. The agricultural products of the soil have been barely sufficient to support the resident population, and have yielded no revenue. The few capitalists we have, are quite chary of vesting their funds in enterprises new to them, and which do not promise an immediate return. For these and other considerations, the undersigned regard the construction of a railroad as quite beyond our means, and not to be attempted at this time; though they confidently believe that such a road will be laid before the expiration of ten years. For the present we must content ourselves with the less imposing, but, in our condition, the scarcely less useful improvement of a plank road for the construction of which every thing seems quite favorable. What we have to present upon this subject we shall arrange under the following heads, viz., 1st, the probable cost of such a road; 2d, its durability; 3d, its capacity to expand the coal and iron trade; 4th, its probable profits; 5th, the means of construction.

[*To be Continued.*]

6. RAILROAD FROM NEW ORLEANS TO JACKSON, MISS.

[The following resolutions, etc., of the Convention lately held at Monticello, are peculiarly interesting to the citizens of the South-west.—Ed.]

Whereas, This Convention, after a careful investigation of the subject, believes that the interests of the States of Mississippi and Louisiana, and the city of New Orleans, would be greatly promoted by a railroad from New Orleans to the city of Jackson, and that thereby the resources would be developed of a valuable portion of country, now comparatively worthless for want of a convenient outlet to market—that it would promote the convenience of the people living in the counties and parishes lying along the line of the road; increase the value of their estates, and add millions annually to the value of the country, and this Convention believing further, that it is highly practicable to construct such a road, and that the public spirit and pecuniary ability of the country through which it will pass, as well as at such terminus of the road, may be safely relied on to furnish the means both in money and labor for the construction of said road, therefore,

Resolved, 1st, That the Convention pledge itself to a strong, united and vigorous exertion on behalf of said road; to sink all minor differences of opinion, and all individual preferences in relation to the route of said road, when the

same shall have been located, and yielding to "the greatest good of the greatest number," unite heart and hand in its completion.

2. That a committee of one from each county, parish and city, represented in this Convention, be appointed and empowered to employ the services of a competent engineer to examine the routes from Jackson to New Orleans, over which a railroad could be made to the best advantage, terminating either at Madisonville or by the way of the Rigoulets, at New Orleans, or to the same terminus by the route originally projected for the New Orleans and Nashville road, and who shall report fully the probable cost of each route, and the description of country over which it would pass, which reconnoisance shall be under the superintendence of at least three members of said committee, who shall report the same with all the facts and statements made by such engineer to an adjourned meeting of this Convention, to be held at such time and place as may be hereafter designated

3. That a committee of six be appointed by the Chair to report such statistics at the next meeting of this Convention, as may have a bearing on the interests of the road contemplated.

4. That the senators and representatives in the State Legislatures, from the counties, parishes, and cities represented in this Convention, be requested to obtain from their respective Legislatures an appropriation to defray the expense attendant on the examinations authorized under the provisions of the second resolution.

5. That a committee of seven, from each of the States of Mississippi and Louisiana, be appointed to procure, from the former State, as favorable a charter as possible, and from Louisiana the right of way, and from both States an appropriation from the Internal Improvement fund of the State, or subscription of stock.

6. That the committee charged with procuring the charters, be instructed to ask the Legislatures of Mississippi and Louisiana to memoralize Congress for a grant of the public lands in the counties and parishes through which the road may run, to be appropriated toward its construction.

7. That in procuring a charter, there shall be inserted, if possible, a clause, providing for the subscription of, and payment of stock, in labor, upon such fair and equitable terms as may prove an inducement to subscriptions of stock on the road.

8. That the counties of Madison, Attala, Leake, Rankin, Simpson, Franklin, Covington, Perry, and all such other counties in Mississippi, and parishes in Louisiana, as may consider themselves interested in this enterprise, be, and they are hereby requested, to call meetings and appoint delegates to the adjourned meeting of this Convention, to be held in New Orleans.

9. That when this Convention adjourns, it shall be to meet again in the city of New Orleans, on Thursday the 21st of March next.

The Chair, in accordance with the above resolutions, appointed the following committees:

On Routes.—John Marshall, of Hinds county; Hon. E. Ford, of Marion; Wm. H. Bowen, of Lawrence; Archibald Steele, of Copiah; Franklin Love, of Amite; S. M. Catchings, of Pike; Capt. W. A. Grice, of Madisonville; John M. Bell, of New Orleans; and N. S. Edwards, of Washington Parish, La.

On Statistics.—Wm. F. Robinson, of Amite; Hon. J. T. Lamkin, of Pike; Col. C. S. Tarpley, of Hinds; Dr. George Nicholson of Pike, Col. E. Safford, of Marion; and J. D. B. De Bow, of New Orleans.

On Memorials.—Samuel J. Peters, Esq., James Robb, Esq., J. W. Stanton, Esq., Alfred Hennon, Esq., John Leeds, Esq., James Saul, New Orleans; Hon. M. G. Penn, St. Tammany Parish, La.; Col. C. S. Tarpley, Hon. W. Stone., Dr. T. J. Catchings, Hon. S. A. Matthews, P. S. Catchings, John J. Guion, Jehu Wall, Mississippi.

7. ALABAMA RAILROAD ENTERPRISE.

[We design publishing in the Review, the able address upon Railroads, by P. Phillips, Esq., of Alabama, and present the first part in our present number.—Ed.]

I cannot but be gratified with your cordial reception of the motion, calling upon me to speak to the questions which have been so ably discussed the three days past. The compliment is doubtless intended to the city I have the honor in part to represent, and the only regret I feel in responding to it, is my want

of preparation, as well as ability, to do justice either to the subject or the constituency which has confided in me.

I feel that I do not over-estimate the occasion, when I say that this is the most important assemblage of the people of Alabama which has been convened since 1819, when they met to adopt their constitution and claim a place in this glorious gallaxy of States. Not only important as to the immediate object to be attained, but still more so, in the influence it will exert in stirring up the minds of our people, and preparing the way for that energetic action, which shall leave them second to none in the great race of improvement. And it is but just to add that the weight of character, the information, the talent and the eloquence which are here congregated, show that the country is fully alive to the great interest involved, and give earnest that what is here "*resolved*" will be executed.

Spread out the map of our country, and we see her immense territory washed on three sides, by the waters of the Atlantic, the Gulf and the Pacific.

Much the largest and richest portion of this domain is intersected by rivers which flow into the Gulf. The States on the Atlantic enjoy the oldest civilization and densest population. Those connected with the Gulf have a more modern rise, while the boundless tract which still stretches to the extreme west was, until our own day, to all practical purposes, "unknown land." Dreariness slept upon it, and the only ray which broke upon the gloom was shed from the convent which the proselyting spirit of the Catholic had planted upon the shores of the Pacific.

With the accumulation of population and capital on the Atlantic, grew the necessity of extended commerce—and now, availing themselves of the great modern improvements, we find the States on the eastern border, from Massachusetts to Georgia, stretching out their iron arms to our very doors, not only to supply us with their produce and manufactures, but to draw away our commerce to their own markets.

The great contest now waged is, whether the cities of the Gulf, represented by New Orleans and Mobile, will maintain the trade which contiguity, sectional and State interests, and the very arrangement of nature itself, seem to entitle them to, against the efforts of Boston, New York, Philadelphia, Baltimore, Richmond, Charleston and Savannah. The millions which these cities have already invested in this enterprise, and the energies displayed in pushing it forward, are worthy the great results which success will reward them with. It is then for our people to say, whether they will yield their commerce to build up splendid cities upon the Atlantic or send it to enrich cities of their own.

Let us, then, turn our attention particularly to our own State, to examine her localities and ascertain what her true interests demand, in reference not only to her own improvements but to the relation she bears to the enterprise of neighboring States.

No sooner was Alabama carved out of the Mississippi Territory, than the want of commercial intercommunication between her northern and southern counties at once pressed itself upon the attention of her citizens. Instead of finding an easy market within the State, and at a short distance, the want of proper facilities forced the North Alabamians to launch their products upon the dangerous and expensive navigation of the Tennessee, to seek one at the distance of fifteen hundred miles from home. This commercial estrangement carried with it social and even political effects. Alabama was one only in name, and the want of that identity of feeling and interest which are essential to constitute a prosperous State, was, at the inception of her existence, found to be an evil that should at any cost be remedied.

As early as 1819 this subject was brought to the attention of the people by Governor Bibb. At that time the means contemplated for connecting the extremes were by turnpike, or canal, running from the Tennessee river to the navigable waters of the Alabama.

From that period to this, the execution of this design has been regarded by every section of the State as a consummation most devoutly to be desired—at no time have our people lost sight of it; and no adverse fortune has been able to shake them from their purpose. The feeling has grown with their growth and strengthened with their strength; and now, after the lapse of thirty years, the

question is again rising up in the most imposing form to chide them for delay, and challenge them to action.

Looking, gentlemen, to the spirit of the times, and the great progress which neighboring States have made; looking to the men who compose this body—to the zeal, energy and determination, which have characterized their speech and acts—I feel justified in proclaiming, in your name, that the accepted time has come, *and that the speedy union of the Tennessee river with the Mobile bay is now beyond the reach of ordinary contingency.*

The diversity of opinion which has been manifested in this body is not as to the propriety of this work, but as to the route. Upon the first, the Convention is not only agreed, but enthusiastic in their agreement. Nor is there any difference with reference to the northern terminus—Gunter's landing being the only one indicated. The four propositions are to run to Selma, to Wetumpka, to Montgomery, or a point on her railroad, for the southern terminus.

Let us look back for a moment, to ascertain what has heretofore been done in reference to the selection of a route.

The anxiety of the public early led to explorations by competent surveyors, and a road to the east of Coosa, to terminate at Wetumpka or Montgomery, was examined and declared impracticable. It is stated by members of this Convention that Mr. Bingham, one of the persons alluded to, was employed by the State for this specific purpose, and that he made a thorough examination, though no instrumental survey. Whether from confidence in the correctness of these reports, or from other information, the idea of obtaining such a route, if ever entertained, seems to have been generally abandoned, and the public attention was very soon enlisted in the examination of another line, commencing at Selma and pursuing the direction of the Cahawba Valley.

As early as 1836 the necessary steps were taken for the organization of a company on the basis of this line, and in the following year the legislature passed an act to incorporate it. Large subscriptions were made to the stock, and an instrumental survey by Mr. Dexter, whose ability as an engineer is not denied, located the road to run from the town of Selma on the Alabama through the counties of Dallas, Perry, Bibb, Shelby and St. Clair.

As the report of the engineer has for many years been before the public, it would be improper to go into the details showing the facility of this route. Suffice it to say, the work was vigorously prosecuted, and upward of twenty-seven miles (commencing at Selma) were graded through a very difficult portion of the line, when the enterprise was suddenly buried in the ruins of that disastrous revulsion which not only shook the monetary system of this country to its center, but forced even the Bank of England to save itself from bankruptcy by the aid of French loans.

From that period to the present, our people have been slowly, but steadily, rising from the state of pecuniary bondage which the mania of speculation had imposed upon them. They again feel their strength and are determined to turn it to a just account. At the last session, the Legislature renewed the privileges, which, under the old charter, had been forfeited; and a convention of the counties upon this route, recently held at Shelby Springs, not only fully approved of the recommencement of the work, but invited a subscription to the stock; books for which, according to the terms of the act, are to be opened at Selma on the 24th of October.

Notwithstanding all these facts, this convention is called upon to adjourn, without acting in the premises—or if it proceed to act, then it is zealously urged to adopt a line on the east of the Coosa, terminating at the towns of Wetumpka or Montgomery. The accuracy of the surveys or explorations which pronounced a route on that side of the river impracticable, has, however, been called in question. It is truly said, there is *expressiveness in silence*, and the fact that in this long agitation of the subject, the counties interested in that line have never had a satisfactory survey, or in any manner demonstrated its practicability or propriety, but have permitted the public to turn its undivided attention to the Selma route from 1836 to within a few months past, is to my mind almost conclusive that no easy route can be obtained and affords strong argument against the proposition to delay our action.

Measuring the distances by direct lines, and Montgomery, I presume, is some ten miles nigher to Gunter's landing than Selma; but the great preponderance

of evidence, shows the route to the west of the Coosa to be so much easier than any route which could be obtained to the east, that the increase of distance will be more than compensated in the difference of cost, whether its terminus be Wetumpka or Montgomery. In right-line distance, West Point is nighest; but this junction is further objectionable, as increasing the inducement to carry our trade by the Georgia improvements, which will soon connect with it, to the markets of Charleston or Savannah, to the great injury of our State interests.

I then prefer the Selma route and shall so vote:

1. Because, other things being equal, the people on that line first organized for the work.

2. Because they have expended upward of $100,000 in surveys and grading, much of which is still of value and is offered as a donation to the new company.

3. Because this route runs through most of the richest mineral counties in the State, including Bibb, Shelby, Talladega and Benton, touching Cherokee and St. Clair.

4. Because this route is the most central and affords equal advantages for lateral branches to the east and west, thus embracing within its influence larger sections of our State.

5. Because this route turns our trade to our own port, leaving the profits thereof to increase the power of the State and aid in the extinguishment of her heavy debt.

6. Because this point is more accessible to market at all seasons of the year, the navigation of the Alabama being more uncertain above Selma than below it.

7. Because this route saves the distance of one hundred and ten miles of river navigation—Selma being that much nearer to the Gulf—and in this proportion saves time, freight and insurance.

The immediate effect of this great work will be to open up new sources of industry. No one who has been attentive to the cotton culture, as pursued in the south-western States, but recognizes its exhausting character. The opinion is generally prevalent among our cotton planters, that it is cheaper to purchase new lands than to manure old ones; and hence, like the locust, they settle only to destroy. It then becomes necessary to *fix this population*. To do this, we must create facilities for transportation, and, by the introduction of the comforts and conveniences of life, convert the temporary settlements of Alabama into "*homesteads*," whose permanency will draw around them increased improvement with increased affection.

The diversion of a portion of the labor now employed in the culture of cotton will not only influence favorably its value, but, by introducing new staples, the State would in a great degree be relieved from the disastrous consequences which now result from the frequent fluctuations in its price. Depending upon this single staple, it becomes the great regulator of values, and the whole business of the country, and all its contracts, are subjected to change and uncertainty, produced by causes beyond control, and which no foresight can anticipate.

I confess, then, that much of my preference for the Selma route arises from its embracing so large a section of the State, rich in inexhaustible beds of iron, coal, limestone and marble. Cotton, it is true, plays a conspicuous part in the world, but, in point of mere money value, it is inferior to many of the subordinate productions of agriculture; and I feel confident in declaring that the day is coming, and not very distant, when, even in Alabama, more wealth will be dug out of her bowels than are now gathered from her bosom.

Not only does our State possess this vast wealth, but, what is of still more importance, it has superior advantages of location. The distinguished Lyell, who lately visited this country principally to acquire geological information, and whose scientific attainment has recently won him knighthood, describing this region, says: "It forms a southern prolongation of the great Appalachian coal field, with which I was unacquainted when I compiled my map, published in 1845, of the geology of North America. Its geographical situation is peculiarly interesting; for, being situated in latitude 33° 10' north, it constitutes at present the EXTREME SOUTHERN LIMIT to which the ancient carboniferous vegetation has been traced in the northern hemisphere, whether on the east or west side of the Atlantic."

Professor Brumby states its extent as being ninety miles long, from north to south, and ten to thirty wide.

Not only do these extensive coal fields constitute the extreme southern deposit, *but construct this road, and you bring at once large portions of them within forty hours of the Gulf of Mexico!*

Those who know the value of this article, and remember that it is the foundation of manufacturing prosperity, and that it is rapidly occupying the same relation to commerce, will at once appreciate the magnitude of the interests here involved.

Speaking of the effect of the coal production upon the general prosperity of a country, McCullough says: "Our coal mines are the principal source and foundation of our manufacturing and commercial prosperity; and no nation, however favorably situated in other respects, not plentifully supplied with this mineral, need hope to rival those that are, in most branches of manufacturing industry. To what is the astonishing increase of Glasgow, Manchester, Birmingham, Leeds, Sheffield, &c., and the comparatively stationary or declining state of Canterbury, Winchester, Salisbury, and other towns in the south of England, to be ascribed? The abundance of coal in the North, and its scarcity and consequent high price in the South, is the real cause of this striking discrepancy. Our coal mines have conferred a thousand times more real advantage on us than we have derived from the conquest of the Mogul Empire, or than we should have reaped from the dominions of Mexico and Peru."

It is evident, then, that our people, with cheap transportation (already owning the cheapest labor in the world), may *command* the trade of the Gulf in coal, and enter into competition with other States, under the most favorable advantages for everything their soil is capable of producing.

Much has been said in this discussion of the newly developed wealth of California and the vast commerce of the Pacific in reference to the channels of trade. Gentlemen have risen above prose in their eloquent descriptions. But though they indulged in "thoughts that breathe and words that burn," they could not paint too strongly the gorgeous spectacle we are soon to behold.

Of the various routes which have been proposed to meet this commerce, that by Tehuantepec promises the best chance of success. It is said to be nearer than Nicaragua by 1,000, and than Panama by 1,400, miles. The width of the Isthmus, as given by Moro, is 135 miles. The river Coatzacoalcos here empties into the Gulf, affording, according to Balbi, an excellent navigation of more than 100 miles, with a fine harbor at its mouth. Descending the table land of Tarifa to the Pacific, although the conveniences of that point do not equal those in the Gulf, we have a very general concurrence among scientific men, that at a moderate cost all the difficulties may be obviated, and a harbor established equal to all commercial wants.

Should no sinister influences control the selection of the locality which is to realize the dream of ages—a western route to Asia—then Tehuantepec will be the grand highway between the two oceans, and New Orleans and Mobile become, from proximity, the great *entrepots* for the rich commerce passing to the East.

MISCELLANEOUS.

1. SLAVE LAWS AT THE SOUTH.

SOUTH CAROLINA.—CONTINUED FROM PREVIOUS NUMBERS.

It is the settled law of this State, that an owner cannot abandon a slave needing either medical treatment, care, food or raiment. If he does, he will be liable to any one who may furnish the same. In Fairchild *vs.* Bell, that good man and great judge, Wilds, whose early death South Carolina had good cause to deplore, said, in the noble language of a Christian and patriot, "the law would infer a contract against the evidence of the fact, to compel a cruel and capricious individual to discharge that duty, which he ought to have performed voluntarily. For, as the master is bound by the most solemn obligation to protect his slave from suffering, he is bound, by the same obligation, to defray the expenses or services of another to preserve the life of his slave or to relieve the slave from pain and danger. *The slave lives for his master's service. His time, his labor, his comforts, are all at his master's disposal.* The duty of humane treatment and of medical assistance (when clearly necessary) ought not to be withholden.

By the 22d section of the act of 1740, slaves are protected from labor on the Sabbath day. The

violation of the law in this respect subjects the offender to a fine of £5 current money, equal to $3 7-100, for every slave so worked.

By the 44th section of the same act, owners or other persons having the care and management of slaves, are prohibited from working or putting the said slaves to work for more than fifteen hours, from the 25th March to 25th September, and fourteen hours from 25th September to 25th March, under a penalty of £20 current money, equal to $13 66-100, for every offense.

The time limited and allowed for labor in this section is too much. Few masters now demand more than twelve hours labor from 1st March to 1st October, and ten hours from the 1st October to 1st March. This, after allowing suitable intervals for eating and rest, is about as much as humane, prudent masters will demand.

A slave may, by the consent of his master, acquire and hold *personal* property. All, thus acquired, is regarded in law as that of the master's.

The only exception is under the 34th section of the act of 1740, which makes goods acquired by traffic and barter for the particular and peculiar benefit of such slave, boats, canoes, or periaugers, in the possession of a slave, as his own, and for his own use; horses, mares, neat cattle, sheep or goats, kept, raised or bred, for the use of any slave, liable to be seized by any one, and forfeited by the judgment of any justice (magistrate) before whom they may be brought.

Under this section it has been lately held, that no one can enter on the plantation of the master to make such seizure.

A seizure can therefore only be made when a slave is found, as owner, in possession of the contraband articles, outside of his master's plantation.

This qualification may render the law harmless; still, it ought to be repealed. The reasons which led to its enactment have all passed away. It is only resorted to *now* to gratify the worst passions of our nature. The right of the master to provide as comfortably as he pleases for his slave could not be, and ought not to be, abridged in the present state of public opinion. The law may very well compel a master to furnish his slave with proper, necessary, wholesome and abundant raiment and food; but certainly no legislator *now* would venture to say to a master, You shall not allow your slave to have a canoe to fish with, or to carry vegetables to market, or that he should not be allowed to have a horse to attend to his duties as a stock-minder in the swamps, savannas and pine forests of the lower part of the State, or that a family of slaves should not have a cow to furnish them with milk, or a hog to make for them meat, beyond their usual allowance. All these are matters between the master and the slave, in which neither the public nor any prying, meddling, mischievous neighbor, has anything to do. Experience and observation fully satisfy me that the first law of slavery is that of kindness from the master to the slave. With that properly inculcated, enforced by law and judiciously applied, slavery becomes a family relation, next in its attachments to that of parent and child. It leads to instances of devotion, on the part of the slave, which would do honor to the heroism of Rome herfelf.* With such feelings on our plantations, what have we to fear from fanaticism? Our slaves would be our sentinels to watch over us—our defenders to protect our firesides from *those prowling harpies who preach freedom and steal slaves from their happy homes.*

A slave cannot contract and be contracted with. This principle was broadly laid down, by the Constitutional Court, in a case in which a note was given by the defendant to the plaintiff's slave, by name, and the plaintiff brought the action upon it. From this decision Judge Cheeves dissented; upon, I presume, the ground that the master had the right to affirm the contract and make it his own, and consider it for his own benefit. In it, I think, he was right, on the principle that the acquisition of a slave is his master's, and that a slave's contract is like an infant's with an adult. It is not binding on the slave, but, if the master affirm it, the defendant cannot be discharged.

A slave cannot, even legally, contract marriage. The marriage of such an one is morally good, but in point of law the union of slave and slave, or slave and free negro, is concubinage *merely*.

The consequence is, that the issue of a marriage between a slave and a free negro, are illegitimate, and cannot inherit from father or mother, who may be free.

The hardship of such a case, where the issue of free negroes married to one another can inherit, might very well lead to a judicious enactment to remedy it.

A slave cannot testify, except as against another slave, free negro, mulatto, or mestizo, and that without oath.

The propriety of this is *now* so doubtful, that I think the Legislature would do well to repeal this provision, and provide that slaves, in all cases against other slaves, free negroes, mulattoes and mestizoes, may be examined *on oath*.

By the act of 1834 slaves are prohibited to be taught to read or write, under a penalty (if a white person may offend) not exceeding $100 fine and six months imprisonment; if a "*free person of color*," not exceeding fifty lashes and a fine of $50.

This act grew out of a feverish state of excitement, produced by the *impudent* meddling of persons out of the slave States with their peculiar institutions. That has, however, subsided, and I trust we are now prepared to act the part of wise, humane and fearless masters, and that this law, and all of kindred character, will be repealed. When we reflect, *as Christians, how can we justify it, that a slave is not to be permitted to read the Bible?* It is in vain to say there is danger in it. The best slaves in the State are those who can and do read the Scriptures. Again, who is it that teach your slaves to read? It generally is done by the children of the owners. Who would tolerate an indictment against his son or daughter for teaching a favorite slave to read? *Such laws look to me as rather cowardly.* It seems as if we were afraid of our slaves. Such a feeling is unworthy of a Carolina master.

The 2d section of the act of 1834 prohibits the employment of a slave, or free person of color, as

* In 1812, February, Prof. Charles Dewar Simmons, on his return to Columbia from Charleston, found the Haughabook swamp entirely over the road. In attempting to cross, on horseback, he was washed off the road and separated from his horse. He first succeeded in reaching a tree, then constructed a raft of rails tied with his comfort. Three times his slave Marcus swam to his rescue. His master told him he could not help him, to save himself; but he persisted until both perished together.

a clerk or salesman, under a penalty not exceeding $100 fine, and imprisonment not exceeding six months.

The 1st section of the act of 1800 prohibits the assemblies of slaves, free negroes, mulattoes, or mestizoes, with or without white persons, in a confined or secret place of meeting, or with gates or doors of such place of meeting barred or bolted, so as to prevent the free ingress and egress to and from the same; and magistrates, sheriffs, militia officers and officers of the patrol, are authorized to enter, and, if necessary, to break open doors, gates or windows (if resisted), and to disperse the slaves, free negroes, mulattoes or mestizoes, found there assembled. And the officers mentioned in the act are authorized to call such force and assistance from the neighborhood as they may deem necessary; and may, if they think necessary, impose corporeal punishment on such slaves, free negroes, mulattoes or mestizoes; and, if within Charleston, they may deliver them to the master of the work house, who is required to receive them, and inflict any such punishment as any two magistrates of the city may award, not exceeding twenty lashes. If out of the city, the slaves, free negroes, mulattoes and mestizoes, found assembled contrary to this act, may be delivered to the nearest constable, who is to convey them to the nearest magistrate, and to inflict, under his order, punishment not exceeding twenty lashes.

The 2d section of the act of 1800, which prohibited meetings for the religious or mental instruction of slaves, or free negroes, mulattoes or mestizoes, before the rising of the sun, or after the going down of the same, was very properly altered, by the act of 1803, so as to prohibit the breaking into any place of meeting, wherein the members of any religious society are assembled, before 9 o'clock at night, provided a majority are white people. After 9 o'clock at night, or before, if the meeting be composed of a majority of negroes (although white persons may be present), it may be dispersed by magistrates, sheriffs, militia officers and officers of the patrol, and slaves, free negroes, mulattoes and mestizoes, may be punished, not exceeding twenty lashes.

In the case of Bell *ads.* Graham, it was held that these acts could not justify a patrol in intruding on a religious meeting, *in the day time*, in an open meeting-house, where there were some white people, although there might be a majority of negroes.

The 2d section of the act of 1800, and the amendatory act of 1803, are treated now as dead letters. Religious meetings of negroes, with only one or more white persons, are permitted by night as well as by day. They ought to be repealed. They operate as a reproach upon us in the mouths of our enemies, in that we do not afford our slaves that free worship of God which he demands for all his people. They, if ever resorted to, are not for doing good, but to gratify hatred, malice, cruelty or tyranny. This was not intended, and ought to have no countenance or support in our statute law.

The 40th section of the act of 1740 regulates the apparel of slaves (except livery men or boys), and prohibits them from wearing any thing finer, other, or of greater value, than negro cloth, duffils, kerseys, osnaburgs, blue linen, check linen, or *coarse garlix*, or calicoes, checked cottons or Scotch plaids; and declares all garments of finer or other kind, to be liable to seizure by any constable as forfeited.

This section has not, within my knowledge, ever been enforced. Indeed, if enforced now, it would make an immense booty to some hungry, unprincipled seeker of spoils. It ought to be repealed.

The 42d section of the act of 1740 prohibits a slave, or slaves, from renting or hiring any house, room, store or plantation, on his own account. Any person offending against this act, by renting or hiring to a slave or slaves, is liable to a fine of £20 currency, equal to $13°66-100, to be recovered on complaint made to any magistrate, as is directed in the act for the trial of small and mean causes.

The 43d section of the act of 1740, which declares it to be unlawful for more than seven male slaves in company, without some white person accompanying them, to travel together any of the public roads, and, by doing so, makes it lawful for any white person to take them up and punish them by whipping, not exceeding twenty stripes, is, I am afraid, of force, unless it be considered as impliedly repealed by the restriction on the patrol, to whip slaves found out of their owner's plantation without a ticket in writing.

The occasion for such a law has passed away. Public opinion has considered it unnecessary; and, like every useless severity, mercy has condemned it. It would be well that it should be repealed.

The act of 1819, 5th section, repeals the 23d section of the act of 1740. The law now makes it unlawful for any slave, except in the company and presence of some white person, to carry or make use of any fire-arms, or other offensive weapon, without a ticket or license, in writing, from his owner or overseer; or unless such slave be employed to hunt and kill game, mischievous birds or beasts of prey, within the limits of his master's plantation, or unless such slave shall be a watchman in and over his owner's fields and plantation. If this law be violated, any white person finding a slave carrying or using a gun, or other offensive weapon, without a ticket or license, in writing, from his owner or overseer, or not used to hunt game, &c., within the plantation, or as a watchman in the same, may seize and appropriate to his own use, such gun or offensive weapon. But, to make the forfeiture complete and legal, the party making the seizure must, within forty-eight hours after the seizure, go before the next magistrate and make oath of the manner of taking; and then, after forty-eight hours notice to the owner or overseer having charge of the slave, by summons, to show cause why the articles should not be condemned (the service of the summons being proved on oath), the magistrate may, by certificate, under his hand and seal (if he be satisfied that the arms have been seized according to the act of 1819), declare the same to be forfeited.

The 6th section of the act of 1822 declares it to be unlawful to hire to male slaves their own time; and if this law be violated the slaves are declared liable to seizure and forfeiture, according to the provisions of the act in the case of slaves coming into this State.

Whether this provision relates to the 4th section of the act of 1816, 7 stat. 453, or to the 5th section of the act of 1803, 7 stat. 450, is indeed somewhat uncertain. The act of 1816, and all its provisions, were repealed by the act of 1818, 7 stat. 458. The act of 1803 seems to be unrepealed, and hence, therefore, I presume the proceeding to forfeit must be under it. By it, the proceeding is to be in the name of the State, in the nature of an action of detinue.

The latter part of the 36th section of the act of 1740 declares, that any master or overseer who shall permit or suffer his or their negro, or other slave or slaves, at any time, to beat drums, blow horns, or use any other loud instruments, or whosoever shall suffer and countenance any public meeting or feastings of strange negroes or slaves on their plantation, shall forfeit £10, current money, equal to $6 88-100, upon conviction or proof, provided information or suit be commenced within one month.

This provision is one so utterly unnecessary, that the sooner it is expunged from the statute book the better. Indeed, it is not only unnecessary, but it is one under which most masters will be liable, whether they will or not. Who can keep his slaves from blowing horns or using other loud instruments?

The 2d section of the act of 1803 prohibits the importation of any negro, mulatto, mestizo, or other person of color, bond or free, from the Bahama, West India Islands, or South America, and also from other parts, of all of those persons who have been resident in any of the French West India Islands.

The 3d section provides that no male slave above the age of fifteen years shall be brought into this State from any of our sister States, unless the person importing such negro shall produce and file in the office of the Clerk of the District where the person so importing may reside, a certificate under the hands of two magistrates, and the seal of the Court of the District where the slave so imported resided for the last twelve months previous to the date of the certificate, that he is of good character, and has not been concerned in any insurrection or rebellion.

Under the 5th section, if slaves be brought into this State, in violation of the provisions of the 2d and 3d sections, they are declared to be forfeited, one-half to the State, the other half to the informer; to be recovered in the name of the State, by action in the nature of an action of detinue, in which it is not necessary to prove that the defendant was in possession at the commencement of the suit, and the informer is a competent witness.

2. CAMPAIGN OF THE RIO GRANDE.

[The following paper is one of a series of military criticisms from the pen of a gentleman of our State, high in standing, and, for many years, in military rank in the army. We have already published two or three numbers of this series, and repeat, again, the declaration already made, that we are committed neither for or against the sentiments. They are not matters upon which a position should be taken in a work like ours. We promised to publish the papers from the conviction that they would embrace much to interest our readers, and regret that any animadversions upon parties or politicians find a place in them. The late administration will not want a host of defenders.—Ed.]

The treaty of 1783, fixing our northern limits, and the occupancy by the British of posts on our soil in violation of the treaty, did not move General Washington to war. French aggressions, though American and French vessels fought at sea, did not move the elder Adams to war. British orders in council, and French decrees, hostile to neutral commerce and violatory of national law, did not move Mr. Jefferson beyond embargoes and non-intercourse. The north-eastern boundary did not provoke General Jackson, with all his natural and acquired wrath, beyond arbitration and diplomacy. But the sensitive Mr. Polk must maneuver and fight for a salt desert that buffaloes would scorn to inhabit.

If Congress had been consulted, and they had ordered occupancy to the Rio Grande, then General Taylor should have embarked at New Orleans for a position on the eastern bank, lower down than Barita, and ten thousand men, well organized, would have produced a treaty with Mexico without fighting. But I think that General Scott, the Commander-in-chief should have been called into the field, to direct the diplomacy and the military movements. He who settled the Maine difficulty by simple note to Governor Harvey, would have closed this Mexican business by a few scrapes of the pen.

As Mr. Jefferson had acquired Louisiana, and Mr. Monroe Florida, Mr. Polk, wishing to follow in the footsteps of his great predecessors, must acquire territory also Being personally warlike, he rejected diplomatic evolutions, and provoked war for acquisition and aggrandizement. Under pretense of repelling Mexican invasion from the Texas frontiers, he orders General Taylor, with a few hundred men, to occupy the right bank of the Nueces. He gives him no cannon; but his Secretary, Mr. Marcy, has ordered some on from Charleston. The veteran Major Galley, of New Orleans, of the Volunteer Legion, hearing rumors of the difficulty of the position, embarks with two companies of artillery to succor or rescue the General. Why the American General was not ordered by sea to the Rio Grande, even from Corpus Christi, I cannot tell—unless a bravado march and a bravado flourish opposite to Matamoras was considered more provocative of a Mexican war appetite. Why Commodore Connor was not ordered to sustain General Taylor, by a movement of his fleet, is a question the Secretary of the Navy may answer. The Commodore, being off Vera Cruz, hearing some report that the Mexicans, in great numbers, were marching to

crush the American General, hurries to the Rio Grande to look after the difficulty.

If Congress had been consulted, and had given authority to the President, a few companies, by march on the Barita side of the river, would promptly seize Matamoras, and the collection of troops at Monterey would be useless. Neither Arista nor Ampudia could have entered the field without instant discomfiture. Now let us see how Mr. Polk and his Secretary of War proceed. On the 4th of February, 1846, General Taylor receives orders to break up at Corpus Christi and march for the Rio Grande. So incomplete were the General's arrangements, that he could not move until the 11th of March. On the 28th of March he arrives on the left bank of the Rio Grande opposite to Matamoras. Threatened by the Mexicans, Cross assassinated, and two troops of his fine dragoons captured—in want of pontoons for crossing the river—in want of ammunition and provisions—he has, as a point of honor, to leave Major Brown to defend an entrenched work badly manned with guns and weak (brave hearts and hands its main and only defense), and retrograde to Point Isabel to give his small army outfit. But for this point of honor (which I think was not worth maintaining), it seems to me that the American General would have done better to withdraw the garrison, thus adding five hundred men to his force, return to Point Isabel, put that quickly in a state of defense by aid of the navy, and, by boats and barges, have crossed to the Barita side of the river and captured Matamoras by attack in the rear, while Arista was left on a wild goose chase.

The American General, having kept Major Brown at the fort of osier and clay, had, of course, to march back to his relief. The enemy blocks the road at Palo Alto. The Mexican would have done better to have established his battery at the chaparal of Resaca, protecting the front by ditches and the flanks by light troops, and maneuvering on the right and rear of the American General, have cut him off from Point Isabel, or driven him into the river. The American General, finding the Mexicans drawn up in a straight line across the road, establishes a similar straight line, and meets them toe to toe and face to face. In this cannonade battle, had the American guns been posted on the flanks, by their oblique fire one flank or the other of the Mexicans would have been cut to pieces, or his center broken. Artillery and infantry should not be intermixed in the line of battle. More men and horses were needed by the artillery arm, and it had no reserve, which is always essential. Hence the death of the gallant and accomplished Ringgold, who had to hunt for men to carry cartridges. Later in the day, the quick and keen-eyed Duncan dashes for Taylor's left flank, and, by oblique fire, drives the right of the enemy from the field, and the battle is won.

The next day the enemy shows front at Resaca. Such was the loss of General Taylor in the first battle, so superior was the enemy in number—and the reinforcements of American volunteers, by sea, being daily expected—that nearly all of the American officers advised retreat to Point Isabel. McIntosh, Duncan and Ridgely, urged a forward movement. General Taylor had his mind made up, and, like John Stark, of Bennington, swore that he would reach Fort Brown that night, or die on the road, and gives his orders to clear the way. Mr. Marcy had time to import camels from Arabia and elephants from India, but the heavy cannon had to be drawn by slow and sluggish oxen—and horses and men were wanting for the lighter guns.

Simple six-pounders were too small to demolish the Mexican battery of heavy guns, and May and his dragoons were ordered to charge it. This service was most gallantly executed, the artillery General captured, and the Mexicans driven from their guns. The infantry routed the enemy from the thick and tangled chaparal, and the Americans pushed forward. Now, at this stage of the game, hear what an experienced engineer and artillery officer says: "Should the enemy retreat, the pursuit commences with speed, and escape is impossible. Horse artillery pursuing a broken line makes horrid carnage; consequently a surrender always follows—and this accounts for the great number of prisoners this sort of artillery always makes." At Resaca the Mexican infantry were retreating in disorder, their artillery captured, and their horse going off at full speed. The cavalry tried to make a stand in defense of the infantry, but a few rounds of grape-shot scattered them. Fresh reserve horses to Taylor's light guns, and Duncan and Ridgely would have captured all the foot soldiers before they could cross the Rio Grande at the deep ford above Fort Brown. The American Gen-

eral, being an infantry colonel, knew not the value of artillery until his first battle, and placed his faith, naturally enough, in the proper weapon of his corps, the bayonet. Mr. Secretary Marcy, abetting this war on the Rio Grande, a country of open plains and thickets, should have seen that the arm of the artillery was strong, full, amply served for the contest with plenty of fresh muscles of men and horses, to effect retreats, or to cut the enemy to pieces if we gained the victory.

And here ended the battle of Resaca, a barren field, yielding no fruits of prisoners, as all battles should do. And while we rejoice that Fort Brown is relieved, and mourn over the gallant dead, we are still on the left bank of the Rio Grande, without boats, without pontoons—Matamoras cannot be reached, and the enemy has escaped us a second time from a hard fought battle-field. These blunders belong to the pen and ink incompetence of the War Office at Washington; and if, in despite of these, the laurel was grasped and victories won, but no harvests reaped, let us not detract from the skill and courage of General Taylor and his gallant officers and men.

The first battles were fought on the 8th and 9th of May, and not until the 18th could the American General effect a crossing of the narrow river and take possession of Matamoras—the enemy having destroyed much public property and made his escape.

Some insignificant towns on the Rio Grande are occupied, whose names are not worth recollecting; but we must not omit *Camargo*, rendered *immortal* in military history by the inside ditch concocted by the *genius* of a *Patterson* and a *Pillow*.

General Taylor does not reach Monterey until the 19th of September. Its capture paid nothing, and many such would not pay for the lives of the glorious officers and men sacrificed in a useless struggle. Here, again, cannon and transport were not furnished by the Secretary of War, Mr. Marcy, and hence the heavy loss sustained. As to the fruits, if Ampudia and the seven thousand combatants who had fought before at Palo and Resaca had been marched to the Rio Grande and embarked for Point Isabel, or New Orleans, they would not have fought at Buena Vista in violation of parole. This march and transfer would have been more easily effected than many persons would at first imagine. The prisoners of war are tied two and two together by the wrists, right hand and left hand—the waistbands and suspenders are cut, so that the other hands are employed in holding up the breeches. One hundred men would guard safely one thousand prisoners marched in this order in column. As to rations, they must supply themselves, the people of Monterey assisting. Some corn and salt, such as Arista fed his fighting soldiers upon, would keep the prisoners from starving.

Saltillo is reached in October, and Agua Nueva in February, 1847. If General Taylor had fallen back on Monterey, destroyed the cannon and blown up the fortifications, and then have fallen back to the Rio Grande, and thus drawn on Santa Anna, the Mexican President and his army would have been captured. Any how, they could not have fought at Vera Cruz, Cerro Gorda and the city of Mexico. Scott advancing from Vera Cruz, Taylor's army was merely one of observation, and the larger the force of the enemy and the further he could be drawn from the active line of operations, the better for the result of the campaign. As General Taylor did not choose to fall back on Monterey and defend the pass of Riconada in his front, he ran the risk of the Mexican General choosing his own battle-ground. Santa Anna should have refreshed at Agua Nueva (Minon having cattle enough to feed him) and passed round to Saltillo, avoiding Angostura. He has now got in the rear of General Taylor, and what can the American General do? To advance is impossible, the desert is before him—twenty thousand Mexicans in his rear! Riconada is seized and Marshall defeated! The American General must surrender! But Santa Anna is a bad general. He wants courage, and here he is vastly below the American General. Deceived by what he supposed a hasty retreat, he does not halt at Agua Nueva, after crossing the desert, to refresh, but pushes ahead and has to meet General Taylor on ground of his own choosing, the Narrows. Ampudia should have continued to harrass General Taylor's right flank, and, sheltered by the ravine, have picked off the artillery men. But, abandoning this, which, by slow means, would have insured the victory, a rush is made upon the American left, which

is turned. Defect of courage lost the Mexicans the battle. Mexican cavalry, which had passed to the rear, could not charge over American riflemen who had neither bayonets or swords. A reserve column of five or six thousand men could not take Bragg's and Sherman's batteries of six pieces of cannon. They got within forty yards, but could get no further. Why, going forward was safer than going back—for the gunners, in that case, could give but one more fire. Where was the Mexican General, that he did not head his reserve column? Sheltered by a ravine, pretending that his lame leg was bleeding afresh! If Santa Anna had possessed the physical courage of General Taylor, the American army would have been completely crushed; and that it was not, was emphatically the fault, the lack of nerve, of the Mexican General-in-chief. Had the American General been possessed of reserve light artillery, he might have captured many of the twenty thousand which he had beaten with five thousand Americans.

This battle hurled the Mexican President from his seat, and made the American General President of the United States.

What was the scheme of occupying Monterey, Saltillo and Agua Nueva? If to cross the desert to San Luis Potosi, the forward march should have been made with a rush, before the enemy could destroy the wells and the cisterns. The base on the Rio Grande was too distant. If the fertile fields of the Baxio were to be reached on this route, the march should have been forced with all speed, and the enemy compelled to furnish the supplies If the design was to invoke the *uti possidetis* and to gain all the territory east of the Sierra Madre, this was not carried out by treaty; and if the territory was wanted, the cession could have been insisted on, even if Monterey and Saltillo had been blown up, and not a soldier stationed nearer than the banks of the Rio Grande. Colonel Donaphan, who marched from Santa Fe to El Passo, Chihuahua, Saltillo, Camargo and Matamoras, declared that he would not give one good farm in Missouri for the whole territory he traversed; and many others thought likewise. Why, then, this waste of treasure, this shedding of blood, this abortive campaign!

Suppose the Mexican and American Generals had been well matched, the superior numbers of the Mexican would have given him the victory. Had Santa Anna possessed the indomitable courage of General Taylor, and placed himself at the head of his reserve, our lines would have been pierced in the center (as they were turned on the left), our artillery taken, the ground covered with the slain and the murdered—no prisoners would have been spared, but all killed, and America would have been covered all over with a mantle of mourning. Valor and honor, as fate and fortune would have it, triumphed over numbers, and treachery and cowardice and the myrmidons of a subtile tyrant were repulsed in dismay and confusion. So much for our good fortune! But such was the risk run by incompetent rulers, who were safe in distance and imbecility. There was no use in occupying Monterey, Saltillo and Agua Nueva, unless a forward march was to be made on San Luis. Looking to the desert, the distance, the difficulties of supplies of food, forage and water, this was not attempted. It was a bad base (that of the Rio Grande) and a bad line of invasion, as our *victories* with *significant results* in *another direction* have fully proven.

An army of observation on the Rio Grande, constantly in motion and constantly threatening, would have aided the invasion at Vera Cruz, distracted the enemy and called off and fatigued his troops. If the Mexicans had a mind to try our mettle a second time on the Rio Grande, they march from their supplies, are defeated by distance, and we take care that they shall not get back to oppose Scott, who is pushing for the heart of the empire. Striking at the tail of the lion is not the way to kill him.

In these remarks, you know that I mean no reflection on General Taylor. He has few admirers more sincere than myself. I go up to the head of the military bureau, to Mr. Secretary Marcy, a lieutenant of the war of 1812, who, in that contest, did not even wear out his breeches. I go up to the emperor and his aulic council, the President and his civil heads. Their blunders have caused lamentation throughout the land—useless war, cruel slaughter, wanton sacrifice of brave and patriotic men and boys—and they must look to Heaven for forgiveness (which may God grant them), for, on earth, scorn, contempt and indignation, is their lot, now and forever.

You will perceive, Mr. De Bow, that the administration was vacillating and

irresolute in its evolutions. If war had been determined upon (as occultly it was hoped for), Mr. Slidell, dressed up in his herald's robes, should have marched beyond the boundary, or, at least, as far as the debatable ground, and hurled his spear to strike and tremble in the Mexican camp. This would have had a Roman aspect and followed an approved custom. Even our Aborigineees, whom we choose to call savages, put on their war-paint, bloody the hatchet, strike the post, and move to the song of the war-dance.

The Commander-in-chief of the army should have been called into immediate service, and all operations should have looked to war and invasion. But General Scott was getting too tall for Mr. Marcy's shoulders, which had the political aspect of his visage, and a good tempered, but fighting, colonel was placed at the head of some three thousand men to defend the Texas *frontier*, which had not been *fixed* by any diplomacy. As this floated on, so marched the troops: Nueces, Sal Colorado, Point Isabel, Rio Grande, and opposite Matamoras. The War Secretary and his chief, the President, thought that two cats could be made to fight if held up by the tails.

It must be plain to you, Mr. De Bow, though you are for civil tactics (statistics) rather than military strategy, that the administration should have determined, at the outset, whether the campaign should be defensive or offensive. If the former, the line of the Nueces was easily defended. If the Rio Grande was to be the frontier, let a position be assumed at Point Isabel, or on the eastern bank, low down; and (if Mr. Ampudia chose to be belligerent) by help of Commodore Conner's fleet and boats (the pontoons being unprovided, though written for, and manufacture checked by want of *specific appropriation*, which would have let the cat out of the bag) Matamoras is seized upon in the rear, and the fighting Mexicans who have crossed are speedily recalled, and the Rio Bravo is ours. The boundary vindicated, and the chief town in our possession, what more is wanted? We could not be afraid of the Mexicans coming on to seize the disputed territory, or to recapture Matamoras. That would be exactly into our hand. If they were for peace, then let the lines be drawn by treaty, they paying the expenses of the war, and Matamoras would be yielded up. But this was not the scheme of our Chief Magistrate, who sighed and longed for fresh acquisitions.

If the campaign was to become offensive, then General Scott, the Commander-in-chief, according to seniority and science, should be called into the field. If General Taylor is to be employed, then his army is to be one of observation, or action. If the former, it turned out not to be such; if the latter, it fought well, but without fruits and without plan. The mixed scheme, or no plan at all, was altogether defective, unmilitary and unwise. Hear what is said of *offensive war* by a most sagacious General: "The first rule of offensive war, is to keep your forces in as undivided a state as possible. By observing this rule, you not only prevent misfortune, but secure victory—since, by its necessary operation, you possess the power of throwing your whole weight upon any given point of your enemy's position." "The second rule, is to keep your forces fully employed. Is it your intention to seize a particular province of your enemy? to penetrate to his capital? or to cut him off from his supplies? Whatever measure be necessary to open your route to these objects must be promptly taken; and if you mean to subsist at his expense, which I take for granted, your movements must be more rapid than his. Give him time to *breathe*, and, above all, give him time to *rest*, and your project is blasted; his forages will be completed, and his magazines filled and secured; the roads of approach will be obstructed, bridges destroyed, and strong points everywhere taken and defended; you will, in fact, like Burgoyne, in 1777, have reduced yourself to the necessity of bleeding, at every step, without equivalent or use. Such cannot be the fate of the commander who, knowing all the value of acting on the offensive, will, by the vigor and address of his movements, have shaken the moral as well as the physical force of his enemy; who, electing his own time and place and modes of attack, shall have confounded his antagonist by enterprises equally hardy and unexpected, and who shall, at last, leave him only the alternative of resisting without hope, or flying without resistance."

Any man of common sense can apply these two rules to the facts and marches of the Campaign of the Rio Grande, and draw indubitable conclusions of Mr. Secretary Marcy's total unfitness to direct and control military movements. We

do not strike at one point with overwhelming forces—we are numerically inferior in every battle; the enemy has constant notice of our designs; we do not confound with bold and unexpected enterprises: we pause and delay, and he has time to *berathe* and time to *rest;* we do not subsist at his expense, but our own; when we win battles we reap no harvests of prisoners, supplies or materiel. We, in one word, blunder and fail; and, but for the valor and hardihood of the General and his troops, would have been most signally disgraced.

A nation of twenty millions of people, overflowing with bravery and patriotism and skill in arms, abounding in the sinews of war—men, money and materiel—should have *crushed, at one single blow,* an enemy so inferior, so feeble, so distracted, so badly commanded, so various in color, so defective in courage, so poor, badly fed, badly clothed and badly armed—so miserable, comparatively, in every sense of the word. But Mars did not preside at the civil council board, and our brave men and boys had to bleed and fall and be sacrificed to appease the war appetite of ignorant, selfish, cruel and incompetent civil rulers! Alas, when will nations and people learn wisdom from the pages of history! When will our federalists, republicans and democrats, learn the truth and appreciate the fact, that the ballot-box can make kings, as well as hereditary succession! When will our people learn to rely on themselves, and to reject the might, the majesty and the folly, of the one-man power! An nescis longas regibus esse manus? Do you not know that kings have *long arms?* It were to be wished, says Swift, that they had as *long ears.* Let our civil chiefs show to their constituents, that, if they *possess* the *former,* they need no *pruning* of the *latter.*

H.

3. INVESTIGATIONS IN ASTRONOMY AND PHYSICAL SCIENCE.

CAUSE.—The author of *cause* solicits, of the editor of the Commercial Review, space for the record and publication of important discourses in astronomy and physical science.

The pages of a Commercial Review may seem, from a cursory glance, an inappropriate place for a scientific disquisition. But if the general intelligence of the class who are its supporters, and the importance to them of a correct solution of the causes of the solar and stellar phenomena for the accurate determination of longitude and latitude, be justly considered, the propriety of the selection will be apparent.

One of the most popular writers on astronomy says, of this science, "that there is none whose principles are more certain and demonstrable," "and, therefore, the man who questions the leading facts and deductions" "only proclaims his own imbecility and ignorance;" and "*Herschel,*" says, that "admission to its sanctuary, and to the privileges and feelings of a votary, is only to be gained by one means—a sound and sufficient knowledge of mathematics, the great instrument of all exact inquiry, without which no man can ever make such advances in this or any other of the higher departments of science, as can entitle him to form an independent opinion on any subject of discussion within their range."

A comprehension of the first principles and terms constitutes the entire stock of the author's mathematical knowledge; and as the design of this and following essays is not only to question the "leading facts and deductions of this science," but to demonstrate their entire falsity—the "*imbecility,*" if there be any, must rest where it belongs All that the author asks of an intelligent community, is that a verdict may not go by default, under a false impression of their competency as jurors.

While enunciating his discoveries as the most important of the age, the author of *Cause* claims no other merit, than the having patiently surmounted difficulties not innate with the subjects examined, but improved on them by the inane warnings of prior surveyors.

If it was not necessary in the outset to demonstrate some of the gross and absurd errors which have originated with mathematicians, and passed, for over two hundred years, under their examination without detection, in order to weaken the confidence and faith of the public mind in their infallibility, the order of these essays would be very different.

MOTION OF LIGHT.—The motion of light was deduced from the observed phenomena attending the eclipses of Jupiter's first sattelite by *Roemer,* a Danish astron-

omer. He observed that those eclipses, which occurred when Jupiter was in opposition, or nearest the earth, took place 8′ 13″ sooner than the calculated time, or the time fixed by the tables; while those eclipses of the satellite, which he observed when Jupiter was in conjunction, or furthest from the earth, took place 8′ 13″ later than the calculated time, making a total difference of time of 16′ 26″ Hence Roemer calculated that light was not instantaneous, but that it occupied 16′ 26′ in crossing the orbit of the earth, or 8′ 13″ in coming from the sun—being nearly two hundred thousand miles of space, which light traversed in a single second of time. "From the mean of six thousand eclipses observed by Delambre, this disagreement between *observation and calculation* was satisfactorily settled at 8′ 13″, while both were considered equally correct."

The theory of the astronomer was generally received, and if we consider, with the observations of Delambre, the pages of matter which have been written on the subject, by eminent mathematicians and astronomers, and that over two hundred years have elapsed since the supposed discovery, it would seem advisedly and without haste.

The place of a planet or satellite in space, is calculated by what are called the elements of the orbit, the explanation of which at this time is unnecessary; it is sufficient to say, that the place of a planet or satellite so calculated, is determined with precision. The distance of Jupiter from the sun is four hundred and ninety-five millions of miles. Thus when the earth is nearest Jupiter, or in opposition, we are four hundred millions of miles distant from her. If we suppose a motion to light of one hundred and ninety thousand miles in a second, instead of an eclipse occurring 8′ 13″ sooner than the calculated time, it ought to occur in opposition, or when the earth is nearest to Jupiter, 33′ 2″ LATER than the calculated time—it requiring that time, according to calculation of its motion, for light to traverse the distance of Jupiter to the earth in opposition. Thus, as the eclipse occurs 8′ 13″ sooner than the calculated time, light, by its astonishing motion, gives us notice of an event (the eclipse) 8′ 13″ before it occurs, and 41′ 15″ before we should have notice of the event according to the theory of light. Yet for over two hundred years this absurdity has passed without detection.

A very simple cause produces the whole observed phenomena. When the earth is nearest Jupiter, the satellite, Jupiter and the earth, are all moving in the same direction, from west to east. But Jupiter's periodical time is nearly twelve years, consequently changes its postion but little while the earth is describing the half of her orbit When the earth, after being nearest to Jupiter, passes to the opposite part of her orbit, she necessarily moves, when the sun and Jupiter are in conjunction, in an opposite dirction, or from east to west. Suppose an observer was stationed in the middle of a street to watch or note the exact second of time in which a bird, passing over a high building, should be hidden or eclipsed by the eaves of the roof. If the place of the bird was known at a given moment, its velocity and direction, the place of the observer and the angle which the eaves of the building made with him—the time of the eclipse, or the moment of passage in which it became lost to view, could be correctly calculated. Suppose, as the moment of the eclipse of the bird approached, the observer should run with velocity *toward* the building—it is evident that the bird would be lost to view sooner than the calculated time; or, if imitating the motion of the earth, when most distant from Jupiter, he should *run from* the building—it is equally evident that he would keep it in view, and that the moment of its eclipse would be later than the calculated time. The theory of motion to light, must find support elsewhere or fall for want of evidence. Let us now pass to the "aberration of light," by the discovery of which the theory was supposed to be confirmed.

ABERRATION OF LIGHT.—Astronomers and mathematicians, in their examination of physical causes, seldom rest satisfied. One discovery becomes immediately the base by which others are proven, or perhaps a platform on which many succeeding ones are erected. The phenomenon termed the "*Aberration of Light*," consists of an apparent motion of the stars in the zenith, by which they annually describe north and south of the equator small ellipses—the conjugate axes of which decrease as the sine of the latitude, until, in the equator, the ellipse is lost, and the motion described is linear, or rather like a small arc. Dr. Bradley was the discoverer of the supposed *cause* of this motion; which he deduced from the theory of the motion of light, with which it appeared closely to harmonize, while it *apparently* confirmed the theory of its motion.

Observations had been made prior to the time of Bradley, as early as 1669, for the purpose of ascertaining whether the fixed stars had any sensible parallax with the diameter of the earth's orbit for a base. The results of these observations seemed discordant. With a view to more perfect observation, aided by the great improvements made in astronomical instruments, Bradley fitted up a zenith sector at Kew, and, aided by his friend Moleneaux, the star known as Gamma Draconis, or Etauin, in the head of Draco, was selected for observation, being the same before observed by Hook in 1669. Bradley's letter to Halley (too long for insertion), descriptive of the observed phenomena, together with his theory of the cause, which he termed the "aberration of light," may be found in Vince's Plane Astronomy, or the "Philosophical Transactions." To comprehend the subsequent matter, the general reader must understand, that, if the earth had no rotation on its axis, the distance of the fixed stars is so great, that, moving in six months the diameter of the earth's orbit (one hundred and ninety millions of miles), a star in his zenith would not change its place if hidden by a fiber of cobweb drawn over the face of the telescope. The wires used for the purpose of giving certainty to such and all observations, are really of the tenuity described, and so insensible the disk of the star, that the brightest in the heavens, would still be eclipsed or hidden by the finest web which is apparent in the morning sun.

Bradley and his friend commenced observing Gamma Draconis on the third of December, 1725. For a few days there was no alteration sensible in the place of the star. On the 17th December, it passed a little more southwardly than it had done before, at previous observations. On the 20th still more southwardly. Not having reason to suspect any error in their observations or defect in their instrument, they were the more surprised, because the star's apparent motion was contrary to parallax. From day to day the star's motion was more and more southwardly, until the beginning of March, when it was found to be 20″ more southwardly than at the time of the first observation. It now seemed to have arrived at its utmost limit southward, and, for several days, no alteration was observed in its place. In April, it appeared to be returning northward, and, about the beginning of June, it passed about the same distance from the zenith it had done in the December preceding. It now proceeded northward and continued to do so until September, when it again became stationary. From September, the star returned south, until, in December, it arrived at the same situation it had occupied twelve months before, allowing for its difference of declination from the precession of the equinoxes.

A nutation of the earth's axis was suspected; but, from observations on other stars, particularly a small one nearly opposite to Etauin, the difference of their apparent motion was too great to have been produced by that cause. With nutation their motions should have been the same. Refraction was tried but found insufficient. At length it occurred to Dr. Bradley, that if light had motion, the observed place of a star would be different from its true place, in consequence of the motion of the earth in its orbit. For, if the earth was stationary in its orbit, the rectilinear rays supposed projected from a star, would pass directly through the tube of the telescope to the eye; but, as the earth traverses its orbit with a velocity of 68,000 miles the hour, the tube of the telescope would require to be depressed sufficiently to allow the rays to pass through the tube without impinging on its sides, in order to observe the star. Suppose the velocity of the earth was equal to the supposed motion of light, say 190,000 miles a second; as the whole orbit of the earth is but a point to the star, the rays may be supposed parallel. Suppose light consisted of an infinite number of particles, falling like rain or small shot in parallel lines for the whole extent of the earth's orbit. Then, if A B, in the diagram, be a section of the earth's orbit, say 190,000 miles, and the dotted lines represent the falling or projected particles of light from a star in the zenith of an observer—the motion in the orbit being supposed for the occasion to be same as that of light, 190,000 miles the second—then would the star D, be actually observed at C. For such must be the inclination of the telescope, 45°, to enable the particles of light to pass through the telescope without touching its sides. Therefore the angle of aberration would be 45°, and the true place of the star, observable at C, be at

D, or immediately in the zenith of the observer B. Now the actual difference between the supposed motion of light and that of the earth in its orbit, the latter moving at the rate of 19 miles in the second, is as 1 to 10,000. Therefore a star observed in the equator 32″.4 in advance of an observer near the zenith, has its true place in the zenith, and the angle of aberration would be 32″.4. Dr. Bradley says, the aberration of a star, never exceeds 20″ by observation. The aberration of a star in the zenith of the equator, in the equinoxes, or soon after, ought to be greater, or at all times near the poles, to correspond with the motion of light.

But not desiring to enter into or examine the merits or demerits in the quantity of the supposed aberration, its accordance or disagreement with the supposed velocity of light—there are abundant evidences in the letter of Bradley to Halley, of the existence of causes in producing the phenomena in which light could have had no part, causes which are fatal to the supposition of the existence of appreciable motion to light. Dr. Bradley, says, in his letter, that he had not been long observing (Note, 1727, two years subsequent to the first observations) "before I perceived that the notion we had before entertained of the stars being furthest north or south when the sun was about the equinoxes, was only true of those stars that were near the solstitial colure. After observations of a few months, I discovered what I then apprehended to be a general law, observed by all the stars, viz., that each of them became stationary or was furthest north or south when they passed my zenith at 6 o'clock in the morning or evening. I perceived, likewise, that whatever situation the stars were in with respect to the cardinal points of the ecliptic, the apparent motion of every one tended the same way when they passed my instrument, about the same hour of the day or night, for they all moved southward while they passed in the day, and northward in the night, so that each was furthest north when it came about 6 o'clock in the evening, and furthest south when it came about 6 o'clock in the morning."

Although Bradley says, he deferred its examination (the matter of the preceding extract) until he could be furnished with a series of observations taken in all parts of the year, *he never returns to it*; either because he perceived the discordance and was unwilling to abandon a beautiful theory; or, the discordance escaping his attention, he was willing to give publicity to the facts observed, the cause of which he had not been able to discover. The axillinear motion of the earth is not taken into consideration in the aberration of light, being nearly inappreciable; any motion of the stars so apparently appertaining to the motion in the axes, and corresponding so closely with the orbitual phenomena, if we take into consideration the revolution which the earth describes in the whole year on its axis, was demonstrative that the cause belonged, in the whole or greater part, to the axillinear motion, and was independent of the supposed motion of light.

The phenomenon known in astronomy as the "aberration of light," is consequent on a changing of refraction. The same cause which produces "aberration," gives origin to a vast range of phenomena, and its discovery solves many of the most intricate problems in astronomy.

It is strange that it should have escaped the investigation of mathematicians, and affords another evidence of the inutility of that science in the investigation of cause. I have denominated it—

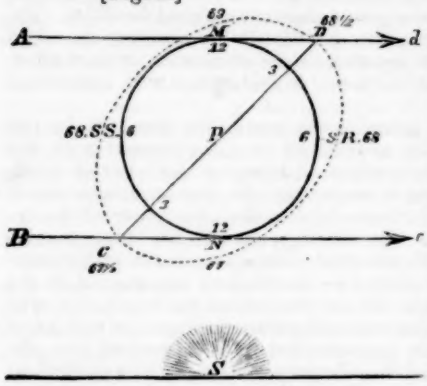
Force in the Diagonal.—If an homogeneous fluid spherical mass, be in revolution round an axis of rotation, and it have at the same time motion in space, by the impression of the same or any force at right-angles with its axis, it will assume the form of an oblong, elliptical spheroid, whose transverse axis will always be in its equator and in the diagonal of a parallelogram, of which the right lines between which it is at any instant moving, will form the sides.

If the circle P. in the diagram, Fig. 1, be the equatorial section of such a sphere in revolution, and it have motion in space, between the lines A and B, in the direction of the arrows, and in the same direction revolve around the axis P, then will the dotted line 67, 69, be the form of the ellipse, and the line D P C be the line of its apsides under every velocity in the axis or orbit.

For if we suppose the mass to be moving round S, the sun, Fig. 2, with the velocity of the earth's orbitual motion, say 68,000 miles the hour, and at the same time round its axis, with the earth's angular equatorial velocity of about 1000 miles the hour, the particles at its equator at M, midnight, will move with a velocity of 69,000 miles the hour, while at N, noon or mid-day, they will move with a veloc-

ity of only 67,000 miles the hour. For at M, midnight, the angular motion round the axis of 1000 miles at the equator is with and additive to the motion in the orbit, while at N, noon, it is opposed to and substractive from it. At 6 S.R., sun rise, the motion of the particles will be 68,000 miles the hour, or the velocity of the orbitual motion, and with the same velocity will they move at 6 S S., sunset. At the point 3, in the morning, the velocity will be the mean between 68 and 69,000 miles, or 68½ thousand miles the hour, as the axillinear velocity of the particles on the surface of a sphere in rotation must decrease as the cosines of latitude; the form which the sphere must necessarily assume under the forces, will be that of an oblong, oblate, elliptical spheroid, whose apsides will always be under any ratio of force or given direction, as C D, the transverse axis is to A *d*, B *c*, the sides of the parallelogram.

[Fig. 1.]



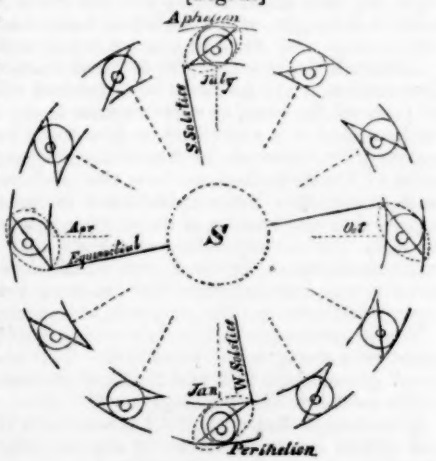
The earth is not an homogeneous fluid spherical mass of matter, nor is the force in the orbit at right-angles with the axis, but every particle of matter of which it is composed is in motion, and must be acted on by all the forces impressed in their ratio of motion.

The proposition is self-evident, and the manifestations of the force must be wide spread throughout the universe.

Force in the diagonal is the cause of the following phenomena. The tides of the ocean; diurnal variation in atmospheric pressure; diurnal changes in the electricity of the atmosphere; diurnal variations of the magnetic needle; diurnal change in atmospheric refraction, producing the phenomenon known as the *aberration of light;* the zodical light, and other phenomena.

For the full comprehension of the forces, all emanating from one law, by which these and other phenomena are produced, it will be necessary for the reader to follow the author through the following demonstrations: 1st, the non-existence of a centrifugal force in mechanics or nature; 2d, the law of motion, by which that deflection is produced which causes weight and which has been termed gravity.

[Fig. 2.]



The next number of *Cause*, will be devoted to these subjects.

4. THE CENSUS OF 1850.

[The following series of letters were addressed by the editor, as chief of the bureau of statistics of the State of Louisiana, to the census board at Washington; and, discussing as they do a number of subjects of deep interest to our readers, their insertion in the Review will not be regarded inappropriate.—ED.]

LETTER I.

PLAN OF CENSUS ENUMERATIONS; MODE OF PREPARING BLANKS; WHETHER SPECIAL BLANKS APPLICABLE TO THE SEVERAL STATES; HOW FAR THE SOUTH IS INTERESTED, &C.

GENTLEMEN—At the request of his Excellency, the Governor of Louisiana, I have the honor to reply to the circular letter forwarded to his address by the Census

Board of 1850, of which, by act of the last session of Congress you are constituted members.

In this circular it is announced that the board have "authorized the preparation of blanks to differ somewhat, as the requirement of different sections may suggest," and desire to be informed "what subjects embraced within the census of 1840 have no practical bearing upon the resources of Louisiana, and had better be dispensed with, and what subjects not embraced" in that census substituted in their stead?

Before entering upon a discussion of the matters indicated by the board, with all due deference, I cannot but think the innovation intended upon the accustomed method of collecting our national statistics, and the plan in particular adopted, if at all practicable, calculated to lead in the result to serious evil and give, either for reference or comparison, but very inadequate notions of the "varied interests of the Union."

If the blanks "authorized" by the honorable census committee have not yet been prepared, and if the determination to prepare them be not irrevocable, the following facts and considerations are respectfully presented to their consideration.

The national census of 1840, involving an important departure from those of an earlier date, in extending its inquiries to the minute divisions of property as well as population, gave rise to many misgivings from those (a very large class) disposed to limit the prerogatives of the federal government within the strict line of precedent under the constitution. Whatever weight these scruples may have had, and I acknowledge the greatest respect for those who entertain them, the fact that entire uniformity in every particular was observed in the interrogatories propounded to every section of the Union, was calculated to appease and reconcile the opposition. The smaller States could suspect no covert design upon the part of the majority under a system ostensibly so fair.

I am ready to admit the importance of embracing within the scope of the decennial census of the federal government, the innumerable industrial pursuits in which our people are engaged, being aware that adequate notions of these pursuits can be obtained in no other manner, although as indispensable to correct legislation as matters of population are to the establishment of a sound representative system.

The principle of uniformity is, however, one upon which I would rigidly insist in every such census as an invaluable safe-guard and guarantee against the dangers incident to every federal system, of rival or dominant interests, uniting or acting alone for the accomplishment of sectional or party ends. One of the beauties of our federal system is the universal application of every one of its laws to every class or interest, thus preventing forever the anomaly so often observed in British legislation of an edict extending to Wales or Ireland only when specifically named. This universality may be designated the pillar of our confederated strength, which any disturbance, however slight or continued, may cause to totter and fall.

No where, it is believed, is the danger of encroachment more imminent than in these very census enumerations, since the points of attack of interest upon interest may be multiplied as particulars increase and irregularities become more and more considerable. The federal census furnishes the great common measure of our representative system and in some contingencies may become the basis too of our taxation.

If the government may depart in one particular from the system of uniformity, a high discretionary power is involved which may extend to many particulars, and it will be as easy to frame a reason for departure in matters of population as in those of wealth and productive industry.

For example, would the declaration "In blanks sent to the northern States, questions relating to slavery must be superfluous," be less reasonable than the one contained in the circular of the honorable board, "In blanks sent to the northern States, to include questions relative to the growth of cotton, rice and cane-sugar, would be as superfluous as to include productions exclusively northern in blanks sent to the southern States?" The census commissioners of 1840, had any discretionary power been vested in them, would doubtless, in accordance with common opinion, have thought so; and the important and instructive fact had thus never been officially divulged, if divulged at all, that slavery ex-

isted in most of the northern States, there being one slave in New Hampshire, five in Rhode Island, seventeen in Connecticut, four in New York, six hundred and seventy-four in New Jersey, sixty-four in Pennsylvania, three in Ohio, three in Indiana, and three hundred and thirty-one in Illinois!

This is but one of a number of illustrations which suggest themselves, and which every person upon a little reflection can supply for himself.

But how do the census board propose to be informed in regard to the propriety of certain questions in some sections and not in others? In a country so wide as ours they must necessarily depend upon representations, and very imperfect if not incorrect ones, made to them by parties either without interest in the matter, or, as it may happen, interested to misrepresent.

The plan of the commissioners makes indispensable to the taking of the census, the very information which the census itself can alone give! It is to rely too upon vague impressions and opinions for data which experience has shown will often escape the most diligent and active investigations of persons employed upon the spot, and paid for its collection.

In the very items of rice, cotton and cane sugar, with which the board illustrate, and which they argue to be of exclusively southern interest, we know that the two first named were actually among the products of Illinois and Indiana by the census of 1840, and cannot be regarded improbable now in Oregon, States and territories in no respect southern; and that the designation of cane sugar as an exclusively southern product will lead to confusion and error in the classifications which have been adopted as well by art as science. Cane sugar is shown by the last census to be the product of every State in the Union except one. "By cane sugar," says Professor McCulloh in his late report to Congress, "chemists and refiners mean not only the extract of the juice of the cane, but the same substance, however produced. The beet, the maple, the melon, the indian corn plant, &c., all yield cane or crystallizable sugar," &c.

But the instances of rice, cotton and cane sugar, if the board, by the last, be supposed to intend the Louisiana product, are peculiar, stand almost entirely alone, and furnish no fair criteri to judge of the merits of the plan contemplated. The most careful examination of the census of 1840 will satisfy any one of the impossibility of determining any of the innumerable products embraced to be of exclusively northern, southern, eastern or western, origin. For example:

In the department of mining there is but a single State in the whole Union which makes no answer, and that is Mississippi. Arkansas shows no lead or other metals, but it is well known now that she has entered upon the mining industry. Not one qustion under this head, except those relating to gold, was answered by less than a majority of the States, and that without regard to geographical divisions of North, South, &c.

Of the twenty-seven questions under agriculture, nineteen are answered by every State in the Union, twenty-three by every State except two or three, and only two (rice and cotton) by less than twenty-five States of the confederacy. There can be no room here, assuredly, for the designation of products as exclusively northern, southern, &c.

The next division is horticulture, and every question is answered by every State.

Commerce.—There are eleven questions; six States answer every one of them—the others are neither northern nor southern, &c., exclusively, and only three of these last fail in answer to more than two questions.

Fisheries.—But one question is asked which every State in the Union might not have answered, strictly; and with reference to every other question, majorities of the States answer without regard to position. Louisiana returns no men employed in the fisheries, yet it takes several hundred, without doubt, to supply the markets of New Orleans.

The Forests.—Out of six questions four are answered almost unanimously; and the other two, relating to tar, pitch and ashes, &c., are answered by about half the States without reference to position.

Manufactures.—The questions are 129. Only ten or twelve of these questions are not answered by southern and northern, &c., States promiscuously, and by as many of the one as the other; and these relate to gunpowder, glass, sugar-refining and cordage, in which many changes have doubtless occurred since the last census. Not a single question is asked but what was answered by States to the North, South, East and West.

Thus, then, it is evident, that, to frame one set of queries for one set of States, geographically, and another set for the others, is an impossibility. It is equally impossible—I mean, of course, if fairness and accuracy be the object—to find a State whose products are so peculiar as to demand an entirely different formula from the others. Of the 188 questions embraced in the census of 1840, Mississippi, whose products are the least diversified of all, answers 116, and would no doubt now answer 130, while New York, the most diversified, answers all but twelve questions, Massachusetts answers 171, Connecticut 162, &c., and the great majority over 140 or 150 questions.

If it be said that these questions do not cover the whole field, it may be doubted whether any others that can be devised will follow a different rule in regard to sections, and it is quite evident that none of them may be omitted.

In every census, it should be observed that uniformity in the questions propounded to different sections must be accompanied by a similar uniformity with the provisions of previous censuses. Without such a rule the important comparisons of epoch with epoch can never be made, and the science of statistics becomes impossible.

It will be insisted, with little force, that although the answers to the queries of 1840 are very general among the States, without regard to position, yet in many cases they show amounts so small as to be unworthy the trouble of collection or of special enumeration. If accuracy be an important object, no items can be considered unimportant, since a great number of the most inconsiderable will, if taken together, swell into an enormous aggregate. Nor is the quantity or the value of any product the sole or chief object of interest. The fact of its existence in a particular locality may be far more important, in evincing a possible capacity for its more extensive introduction there, natural causes being demonstrated favorable. It is important, too, to trace the beginning and the progress of every branch of industry. Had our earlier censuses been taken with equal minuteness with the last, what invaluable comparisons and deductions might be traced! Massachusetts, for her $42,000,000 manufacturing capital, would have shown in 1790 two or three millions only, perhaps, and it is not impossible, in some remote census, she will look back with as much contempt upon her present capital, as she no doubt now does upon that of 1790.

It must be evident, too, to the census board, that if particular questions are applicable to certain States only, they must for a like reason be applicable to different parts of the same State. I say for a like, although it were easy to maintain a stronger reason, since there is not so great a difference, for example, between the industry of Virginia, a southern State, and New York, a northern one, as between Virginia to the east or westward of the mountains. The examples may be multiplied.

Finally, the plan proposed by the census board, if admitted practicable, promises, in the result, injustice to the southern States, and upon this account should meet with little favor. The South enjoys the reputation of being exclusively agricultural, whilst the North, having in common with us innumerable branches of agricultural industry, enjoys almost the monopoly of manufactures. Thus, therefore, in tabular forms framed for the South, it will be easy to omit some branch of manufactures actually existing here; but, in formula for the North, it will be impossible to omit any branch of agriculture. Ninety-nine in every hundred agricultural products will be taken for granted, common to the North and South, and only one in one hundred manufacturing products common to the South with the North! Nearly every mistake that occurs must for an obvious necessity be against the South, and the chances of mistakes are innumerable!

I shall have the honor in the course of a few days to address several other communications to the honorable board of census in regard to the subjects embraced in their circular letter, and others, of a general character, relating to the census of 1850.

LETTER II.

POPULATION OF LOUISIANA; EMPLOYMENT OF POPULATION; NUMBER OF INSANE, DEAF AND DUMB; NUMBER OF EDUCATED AND UNEDUCATED; INVESTMENT OF CAPITAL IN LOUISIANA; ANNUAL PRODUCT OF INDUSTRY.

In a previous letter I took occasion to examine in detail the principle proposed for the census enumerations of 1850, so far as the preparation of blanks suitable

to different localities was concerned, and declared it to be impracticable, or if practicable, inadequate to meet the requisitions of such a census, and calculated in the result to lead to injustice toward the southern States.

As it is possible, however, that the census board have made up their minds on this subject, and by the preparation of the blanks "authorized" are too far committed to retreat, or to make any modifications, even if convinced by the reasonings advanced, which cannot be taken for granted, I will in the present communication wave all objections and reply fully to the points indicated by their circular. If blanks must be prepared of the character described, full and correct information in regard to the various localities and divisions of the Union becomes a necessary prerequisite.

The queries propounded by the honorable census board are—

1.—*What subjects embraced within the census of* 1840 *have no practical bearing upon the resources of Louisiana, and had better be dispensed with?*

2.—*What subject important to Louisiana, but not embraced within that census, would be worthy of notice in the census of* 1850?

By the census of 1840, Louisiana exhibited the following:

I.—POPULATION.

Whites.	Free colored.	Slaves.	Total.
158,457	25,502	168,452	352,411

II.—EMPLOYMENT OF POPULATION.

Agriculture,	79,289	Sea navigation,	1,322
Commerce,	8,549	River navigation,	662
Manufactures,	7,565	Professions,	1,918

III.—INSANITY, &C.

Deaf, blind, dumb and insane—white,	134
" " " " colored,	98

IV.—EDUCATION, &C.

Colleges,	12	Common schools,	179
Students,	989	Total scholars,	3,573
Schools, &c.,	52	Public scholars,	1,190
Scholars,	1,995	Whites unable to read and write over 21 years old,	4,861

V.—INVESTMENT OF CAPITAL IN LOUISIANA.

In iron furnaces, &c.,	$357,000	Soap and candles,	115,500
Horticulture,	359,711	Distilled and fermented liquors,	110,000
Foreign commerce,	16,770,000	Drugs and paints,	6,000
Retail trade,	14,301,624	Earthenware,	3,000
Lumber yards,	260,045	Sugar refineries, chocolate and confectionary,	351,000
Miscellanies,	144,523	Printing and binding,	193,700
Machinery, cutlery, and bricks and lime manufacturers,	2,432,600	Carriages and wagons,	15,780
Cotton and dyeing factories,	22,000	Flour, grist and saw mills,	1,870,795
Tobacco manufactories,	95,000	Furniture manufactories,	576,050
Leather, tanneries and saddleries,	132,125	Other manufactories,	417,699
Other leather products,	89,550		

VI.—PRODUCT OF LOUISIANA.

Horses and mules,	*99,888	Bbls. naval stores,	2,233
Neat cattle,	*381,248	Value skins and furs,	$1,179
Sheep,	*98,072	Val. machinery man.	$5,000
Swine,	*323,220	bricks and lime,	$861,655
Value of poultry,	$283,559	cotton manufacture and dying,	18,900
Bushels wheat produced,	60	Value silk manufactures,	420
oats,	107,353	tobacco manuf.,	150,000
rye,	1,812	leather manuf.,	108,500
corn,	5,952,912	Pounds soap,	2,202,200
Pounds of wool,	49,283	tallow candles,	3,500,030
hops,	115	sperm, &c., do.,	40,000
wax,	1,012	Gallons spirits,	285,520
Bushels potatoes,	838,341	ale, &c.,	2,400
Tons hay,	24,651	Value drugs, &c.,	$42,000
Pounds tobacco,	119,824	earthenware,	1,000
rice,	3,604,534	sugar refineries,	770,000
cotton,	152,555,368	chocolate,	7,000
silk,	317	confectionary,	20,000
sugar,	119,947,720	carriages,	23,550
Cords of wood sold,	202,867	Prod. saw, grist and flour mills,	706,785
Dairy produce value,	$153,069		
Orchard produce value,	$11,769		

*Number existing in the State, and not, of course, the product of a year.

Gallons wine made,	2,884	Value vessels built,	80,500
Other produce,	$65,190	furniture manufactured,	2,300
Market gardens,	$240,042	houses built,	2,736,944
Nurseries,	$32,415	other manuf.,	5,000
Lumber, value,	$66,106		

From these tables it will be perceived that the only items embraced in the census of 1840, which had no practical bearing upon Louisiana at that time, were—

1. Lead, gold, anthracite and bituminous coal, salt, granite, marble, &c., under the head of mining, in which I do not know whether any capital or industry has been since applied—probably very little if any. The mineral resources of Louisiana have never been accurately determined. We have never had a geological survey. A reconnoisance was once made in a very hurried manner by a learned Professor, for which the State paid liberally; but what the results were no one can now learn, as the manuscripts were not printed, and have been lost by some carelessness, or abstracted from the State records. A substantial sandstone is said to exist in the neighborhood of Natchitoches, suitable for building purposes, and the foundations of an old Spanish fort were made of it; but as to any thing else I am entirely in the dark.*

2. Barley, buckwheat, hemp and flax, dried and pickled fish, oil, whalebone, &c., ashes, ginseng—manufactures of fire-arms, metals, marble, wool, flax, hats, straw bonnets, gunpowder, turpentine and varnish, glass of every sort, paper, rope-walks and musical instruments. Many changes have, doubtless, been effected in ten years. Some little barley and buckwheat may be grown, being the product of every other State in the Union, and being excluded from ours from no necessary reason. Our fisheries are for daily and domestic consumption, and probably none of the products are salted. Some value is doubtless now obtained from ashes. We have marble yards producing the finest description of work. The production of turpentine is an object of great interest in some parts of the State. We had one paper mill in operation for several years, but the experiment was unsuccessful.† In the other items, matters remain very much as in the census of eighteen hundred and forty.

Of the questions relating to population not one is irrelevant to Louisiana.

By the tables embraced in this communication it will be perceived which of the products of Louisiana are the most considerable and which the least considerable in amount. In wheat, hops, wax, silk, skins and furs, earthenware, &c., the amounts are almost nominal. Sugar, cotton, corn, rice and commerce, make up the resources and prosperity of Louisiana. Yet as the State advances in population she is diversifying more and more her industry and the occupations of her people.

In my next I shall reply to the second interrogatory of the board.

LETTER III.

CAPITAL INVESTED IN SUGAR INDUSTRY; LANDS AND LEVEES OF LOUISIANA; IMPORTANCE OF STATISTICAL BUREAUS.

The second question proposed by the Census Board, is:

What subjects important to Louisiana, but not embraced within the census of 1840, *would be worthy of notice in that of* 1850?

In answering this inquiry fully, I should necessarily be compelled to enter upon many particulars, which, for the convenience of arrangement, I prefer postponing to another place in this series of letters. There are still some matters of a very special and others of a general character, which may come in very well here. The suggestions that will be advanced hereafter, have as much application to Louisiana as to the other States.

It occurs to me that the classification of sugar as an *agricultural* product, though agreeable to all usage, and probably more equitable than any other that could be made, leads yet to some omissions which might well be supplied in this census. Whilst wine, silk, leather, tobacco, &c., are considered products of *manufacturing* as well as agricultural industry, sugar would appear to have

* In the North-west parishes of the State, iron ore and coal exists to an extent not determined, as I am informed by Professor Forshay.

† A cotton manufactory is now in contemplation at New Orleans, by a company which may be the means of an extensive introduction of this industry.

some ground for a similar distinction. I will admit that there are difficulties in the subject; but what I am unwilling to allow, is that the most trifling investment of capital in every other branch of manufacturing industry, in the way of machinery, &c., should be noted, whilst the enormous investments made by our planters in the construction of mills, engines, &c., reaching, in some instances, in amount to the investments of the most extensive cotton factories, are entirely overlooked. These have no counterpart in any other branch of agricultural industry; they are purely implements of *manufacture*—as much so as any others that could be named. I mention the subject in the hope that if there be any *practicable* mode of collecting the statistics of these investments separately, it will be done.

There are some special questions in reference to the *lands* of Louisiana, which would be very interesting if obtained. What proportion of the soil in cultivation is subject to overflow, and what are the average losses from this source? What quantity of sediment is deposited upon lands, and its value in fertilizing them? What have been the elevations, if any, in the beds of the different streams whose banks have been leveed? What accretions of land are caused by the lower Mississippi, and what losses by washing away? I refer to these points as of great interest, without undertaking to say that any of them could be furnished in a Government census. I think that a better and more reliable manner of collecting and combining all such data would be, by the establishment in each of the States of a *Bureau of Statistics*.

I would, therefore, urge on the honorable census board, as not inappropriately a part of their duty and calculated to develop, in a high degree, the resources of the country, and materially facilitate the taking of the decennial censuses, the necessity of urging, in every proper manner, on the different States, the importance of connecting with their State Departments regular *Bureaus of Statistics*. The expense must in every case be inconsiderable, and the advantages incalculable. Probably in no other way can the most minute items be obtained, which must escape all general formulas intended for the whole or a number of the States. The annual or biennial reports of these bureaus to the various Legislatures, if collected together at Washington, combined and digested, would, from year to year, furnish the data which the Patent Office in vain seeks, which come too seldom in the national census, and then imperfectly, but which are always necessary to correct legislation.

I am happy to announce that some of the States have taken the initiative in this matter, and that Louisiana has been the first to move. She has established a regular office of statistics; and, although the act of the Legislature is defective and leaves the office without proper organization and without the power of effecting much good, yet a beginning has been made, and the necessary amendments and improvements can readily be suggested, and it is hoped will be adopted. Circulars have been sent to all the other States, inviting a co-operation, and movements have been made by several of them in the matter. The time may not be far distant when all the States will display the commendable spirit of Massachusetts, in the minute manner in which she preserves the statistics of her population and industry (though yet without a regular bureau), and the spirit which actuates some of the more advanced European nations. On this subject I shall remark again more fully in the sequel.

I would refer the honorable census board, for many particulars relative to Louisiana, to the first report of this bureau made to the late Commissioner of Patents, and embodied in his annual report, now, it is believed, at Washington in manuscript, although expected anxiously by the country and more especially by Louisiana, for several months, on account of the valuable reports embraced in it on SUGAR, with all the various drawings of sugar machinery, &c., by Mr. Fleishman, whose labors in this field, though hardly more than begun, it is understood, have been dispensed with by the present administration. I cannot feel at liberty to close this letter without inquiring whether minute scientific investigations relative to the production and manufacture of sugar, are not as important to the planters of Louisiana, as the minute analysis of wheat, conducted by Prof. Beck, and published within a few months, can be to the farmers of the North? I advert to the subject in the hope that the investigations of Mr. Fleishman will be resumed by himself or by some other person appointed by Government.

LETTER IV.

ERRORS IN THE CENSUS ENUMERATIONS AND MODE OF AMENDMENT; WAGES OF LABOR; COST OF TRANSPORTATION; INTERNAL IMPROVEMENTS; OMISSIONS IN PREVIOUS CENSUSES.

The remaining remarks that I shall have the honor of addressing to the census board are of a general character, relating equally to all sections of the Union, and although not called for in the terms of the circular to which I am replying, are evidently embraced within its spirit. My duty would be inadequately performed did I neglect them.

The subject naturally divides itself into questions relating to *wealth* and to *population*; and first, of *wealth*:

In estimating the productions of the United States very great errors have been made by not paying sufficient regard to the fact that our census enumerations give, in a multitude of instances, a value, the result of agriculture, the forests, &c., and the same value over again, the result of manufacturing industry. Thus, to take an example, the 500,000 bales of cotton consumed by the manufacturers of the Union are estimated as an *agricultural* product, and being converted into another form by industry, are counted again at their full value in *manufactures*, swelling by this means enormously the aggregate of productions in our tables, and showing a disproportionate creation of wealth in the manufacturing regions. By the plan which has been pursued, Massachusetts is actually considered a producer of the *whole stock* consumed in her factories, whilst in regard to cotton, to go no further, eight out of the sixteen millions of dollars set down to her credit is the result of the industry of other and remote sections!

It is suggested, then, as an inquiry peculiarly appropriate, when requiring the amount of capital invested, and the value of product, "what quantity and value in *stock* or *material* is annually consumed?" or, if this be not found practicable, then to embrace in the general summaries made up from the census all the necessary corrections and deductions. The late census of Massachusetts has attempted this, in part, for that State.

The error in the aggregate of our industry, as shown by the census of 1840, for the reason above indicated, has been considered by statisticians as amounting to the enormous sum of $275,000,000 or $300,000,000.

Another valuable element in matters of manufacturing industry, is that of *wages* or the proportion which *labor* receives of the ultimate product. If this cannot be had by direct queries to the employer, from the opposition which exists to such statements, it could be deduced, with tolerable accuracy, where the amount of capital invested, stock consumed and dividends declared, are known.

I am not sure that very interesting and valuable tables, showing the remuneration received by the laborer, with or without board found, might not be made up from interrogatories skillfully devised. Information of this sort would greatly promote the industry of the nation, in showing where particular enterprises, in which labor is a leading ingredient, must flourish, and it would at the same time tend to correct many erroneous impressions afloat regarding the profits of different employments.

The *cost of transportation* to the market of consumption, or of export, is also suggested as an important object of attention. Producers nearest the market enjoy a virtual *protection* to the extent of their savings in freight, which, in regard to bulky articles of small value, becomes considerable. On this principle the corn and wheat growers of Wisconsin and Iowa are far less favored than those of New York and Virginia, and it will take much if not the whole advantage growing out of superior productiveness of soil to compensate them. I throw this out as a hint which might possibly be of some practical utility.

Many important items were omitted in the census enumeration of 1840, which should unquestionably be inserted in the next, or where found impracticable noted in the general summary or "recapitulation." Among these are *honey*, which the late Commissioner of Patents, upon the basis of Bevin's calculations, estimates at $2,299,590; *pasturage* $20,000,000, *eggs* $5,186,200, *feathers* $1,000,000, *firewood* $37,500,000, *straw*, *chaff*, and other residuum of the crops, $74,000,000, making a grand total in these few articles of nearly *one hundred and forty millions* of

dollars entirely unnoticed.* To which add for manures at least $50,000,000, and butchers' meats, &c., $100,000,000.

Finally, whilst the census gives so many minute particulars of agricultural, manufacturing and commercial industry, it would seem fitting to include matters of investment in *internal improvement*. What amounts are now invested in the different States in railroads, turnpikes, canals, &c, and what the annual additions of capital to these branches of industry? At present we must trust to mere approximations and estimates, without being able always to arrive at reliable data. It would be a matter of interest to every citizen of the Republic to know with certainty the amount of capital invested in each of the States, and in the whole Union, in all the various measures of internal improvement.†

I do not question that examples might be given almost innumerable, which would seem to stand upon a common ground with these presented, if any were supposed worthy of attention; but I have selected them from the mass as of such high importance as to demand peculiar and separate consideration.

LETTER V.

POPULATION OF RUSSIA AND THE UNITED STATES; STATISTICS OF POPULATION; HISTORY OF CENSUS ENUMERATIONS AND ANALYSIS OF AMERICAN CENSUS.

Russia and the United States, according to Mr. Allison in his lately published work on population, are the two great powers of the world, which, though latest on the stage of action, and last to be recognized among independent nations, are advancing in population with the most amazing strides. In the one he recognizes the element of despotism struggling with *man*, and marching steadily onward by conquests over him; in the other, the elasticity, vigor and energy of democracy, overcoming all the obstacles of *nature* and pressing forward into the depth of the wilderness to subdue it into activity and life.

The comparison and this contrast are striking. While all the original States of Christendom, where the battles of the reformation and civilization have been fought and won, and all the principles of progress were earliest sown, exhibit a gradual decline or at most a sluggish advance—in the savage wilds and the remote North, whence emerged in early ages the barbarians that overran and desolated Europe—among the eternal forests which sweeps from ocean to ocean in a newly discovered continent, far away over the seas—have sprang up, as if by enchantment, and actuated by the most opposite and irreconcilable principles, two great and overshadowing powers, differing from every other in the world, but yet *identical*, the one with the other; in this, that their giant progress is unchecked and uncontrolled by a single counter influence, and promises, in the result, developments to which all history furnishes not the parallel.

No where can a more instructive lesson be learned than here. With the just pride and exultation of an *American* heart, are vaunted the hosts that swarm across our mountains and plunge deep back into the continent toward the shores of another ocean; yet were it in this alone, or in any high degree that the glory of America consisted, *despotic Russia*, of all European nations the lowest in point of civilization, is our only rival.

Hence may be gathered the value and importance of the numerous inquiries which are now in almost all countries made in regard to population. Mere *numbers* is the least in value of all the results which are sought. What are component parts of population? The proportion of sexes, of marriages, of births and deaths, the relative ages, the proportion of education and physical comfort enjoyed, &c.,—these are the strides of modern philanthropy and of an elevated political economy.

The earliest writers on population supposed various periods within which it was possible to double itself by *natural* means. Sir W. Petty assumed ten years, Euler twelve and four-fifths. The Abbey Expilly, however, placed the increase of France in fifty years at only one-twelfth, and Dr. Adam Smith argued that five hundred years at least would be required to produce a *duplication* in Britain and most other countries. This duplication is yet placed by Colquhoun at fifty years

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* In the Massachusetts statistics the following articles not included in the act are supplied, viz: casks, boxes, bark and charcoal, milk, eggs, garden seed, berries, broom-seed, and brush, &c.

† The Boston census for 1845, gives the full capital in internal improvements as in other industry, which in railroads alone amounted to $26,712,123 57.

for Britain, twenty-eight for Canada, thirty-six for Russia, forty-six for Ireland and fifty for France. These estimates show how vague and contradictory were all speculations of a period anterior to the regular embodiment of statistics of population at fixed periods. Dr. Franklin was nearer the truth when he thought the population of the United States would double in twenty years, and in some of the western settlements in fifteen years.

Various methods have been at different times adopted for ascertaining the population of a country. The number of houses were multiplied by four, five, five three-fifths and six, the number of births by forty-five, thirty-five, twenty-eight, &c., according to different opinions. The ratio of death to population was also adopted as one method, but in regard to them all, as Dr. Franklin well remarks, the same rule cannot be applied to town and country indiscriminately, even were there no other objections. An actual *enumeration* is the only *reliable* method, though this being once made and a complete register of births, deaths, emigration and immigration kept, were it possible, they would furnish forever the amount of population in any country at any given time. The United States lead the way in establishing a fixed rule for decennial censuses, which has since been imitated in England. Henry VIII is indeed said to have had a census taken of the kingdom, showing the number of inhabitants, their ages, professions, wealth, &c., and a similar census was taken in Spain some time during the eighteenth century.

In our first census, of 1790, the whites were taken as male or female, and under or above sixteen years; whilst the aggregate of slave and free colored population was alone given. The age selected for the whites was supposed to be that which separated the productive from the unproductive classes. It was not observed that, over sixty, men begin again to occupy the position of under sixteen, in regard to productive energies in matters of wealth.

The census of 1800 adopted the rule of that of 1790 in regard to slaves, &c., but embraced a greater number of classes for the whites. They are taken as under ten, between ten and sixteen, and under twenty-six, twenty-six and under forty-five, forty-five and upward. This was an exceedingly arbitrary arrangement, and without any merit to commend it; fifteen and thirty, thirty and forty-five, forty-five and sixty, sixty and upward, would have been far more profitable.

No change was made on the above in taking the census of 1810, but in 1820, in regard to white males, a column was added for those between sixteen and eighteen. It is possible that some advantage in these classification might have existed for *military* purposes. Not before 1820 were the slaves and free colored taken by sexes and by ages, and the divisions for the latter were under fourteen, fourteen and twenty-six, twenty-six and forty-five, forty-five and upward. This caused a still further complication, and almost destroyed the possibility of a common measure in comparing blacks and whites, and one census with another.

The censuses of 1830 and 1840 were more philosophical in their divisions, and included a greater number of heads. For whites, they were taken under five, five and ten, ten and fifteen, fifteen and twenty, twenty and thirty, thirty and forty, forty and fifty, fifty and sixty, sixty and seventy, seventy and eighty, eighty and ninety, ninety and one hundred, one hundred and upward. The slaves and free colored were also considered as under ten, between ten and twenty-four, twenty-four and thirty-six, thirty-six and fifty-five, fifty-five and one hundred, one hundred and upward. The departure from the decimal or half decimal system is again to be regretted, in regard to the blacks. In 1830 the deaf and dumb were taken by ages, and the blind separately and without ages; in 1840 the deaf and dumb together, by ages, the blind separately, as before, and the insane and idiots together, without ages, the whites and blacks being separated. These particulars seem to have been loosely attended to in many quarters, considering the complaints that were made. The number of insane negroes was marked, we believe, higher in one State than the whole amount of negroes registered in it. A separate column is respectfully suggested for the *maimed*, or those who have lost one or more of their members indispensable in productive industry, and also a column for *paupers* depending in any degree on public maintenance.

The census of 1830 considers the number of foreigners *not naturalized*, but this was omitted in the next decade, without, as I conceive, sufficient reason. It is surely a matter of importance to know the number of *actual* citizens in the Republic, and a great many facts in regard to the place of birth or early domicil

of the population; or, if children, of their parents. On these points I shall hereafter venture a few remarks.

The census of 1840 superadds much in regard to the condition and employment of population, viz.: whether military pensioners, employed in mining, agriculture, commerce, manufactures and trades, navigation of the sea or inland, in learned professions—the number of universities, and colleges and students, academies and pupils, primary schools and scholars, scholars at public charge, and white persons under twenty years old who cannot read or write. In my next I shall find occasion to refer to some of these points.

LETTER VI.

PAUPERISM IN THE UNITED STATES; POPULATION OF NATIVE AND FOREIGN BIRTH; EDUCATION IN THE UNITED STATES AND AT THE SOUTH.

1. In my last communication I took the liberty of suggesting some inquiries, in regard to the extent of *pauperism* existing in different parts of the Union. At former periods in our history, the subject might have been overlooked without impropriety; but as population and wealth increase, so in their train come all the melancholy attendants of pauperism. This has been the experience of every other nation, and although there may be much in the forms of government to mitigate the evil, there can be nothing in these forms to obviate or destroy it. A higher law than any proceeding from merely human sanctions would appear to preside over and regulate this matter. Sir Robert Peel uttered but the mournful truth in his celebrated declaration in Parliament: "The misery and destitution of the working classes are the high price at which is purchased the civilization of the world." Certain species of industry may have, it is true, a greater tendency than others to bring about this result, and some branches may have scarcely any tendency at all. In the sections where they respectively prevail, the phenomena of each will, of course, be apparent.

What are these branches of industry, and how far, with all their advantages, do they tend unduly to stimulate population, lower its standard of comfort, depress its earnings, increase its toils, check its intellectual development, and bring it down to the criminality and degradation of crowded European communities? If manufactures have this tendency, and the amount of pauperism will indicate it, as it is often maintained, let us know the fact. If agriculture has it, let us equally be informed. With the statistics before him, the statesman may frame his great rules for the government of society, as well in the prevention as the remedy of evils.

In comparing each decennial period with the last, we shall determine, by the increase or decline of pauperism, the *status* of the country and the ultimate prospects of our free institutions.

2. I have also adverted to the statistics of population, considered as *native* or *foreign* born, *citizens* or *aliens*. It may be true that, for *political* purposes, such distinctions have under our system no value, but in the view of political economy many of them are highly important. In estimating the productive energies of a people, much more is due to the character of the races, or families of men included, than to mere numbers. The government and laws of a people will not account for all the phenomena of their existence. In certain races the law of *progress* seems to be stamped by nature herself, and in others, of inaction or decline.

I can easily see how it may happen that our character as a producing, enterprising nation will be greatly determined by the description and relative character of the emigrants attracted to our shores and their proportion in amount to those of native birth. An Anglo-Saxon parentage may be more or less productive, &c., industrially.

In obtaining information on the subject, it would be impossible to go further than ask, Was the man born in the country or not? Of native or foreign parents? If foreign, from what country and whether naturalized, &c., &c. Dr. Chickering, of Boston, has lately published an interesting pamphlet, in which he shows how little reliance can be had on the emigration registers which are kept under the act of Congress, and estimates that 3,922,152 persons in the country in 1840 were due immigration since 1790; and upon his data we have

estimated the actual number of alien born now residing among us, 2,431,472, or more than ten per cent. of the whole population.

3. In the matter of *education*, the census of 1840 gives the number of schools and scholars, and the proportion of white adult population unable to read and write. This part of the statistical returns shows greatly against the southern States, and seems to call for a few reflections.

It should be observed that, in consequence of the sparseness of southern population, regular schools are out of the question, and vast numbers of families are forced to employ private instructors in their household, or perform the duty themselves. Some account of this should be made in the census returns if strict fairness be intended, since it is peculiar to this section. Every such family should be regarded a school.

The test of "reading and writing," though it has the advantage of simplicity, cannot be considered conclusive in fixing the extent of education prevailing in any State. I am not bound to submit a better test in showing the objection to this. The time required to attain such accomplishments, and the pains, may be infinitely less than that expended, by those who do not possess them, in acquiring other and, as it may sometimes happen, more important knowledge. A people with a large relative proportion defective in letters, may yet possess a high average or even aggregate of intelligence, perhaps higher than another people without this deficiency. This may be said of the Athenians as compared with other ancient nations, and with many of modern times.

Or, if "reading and writing" must be taken as the test of the *lowest* standard of intelligence, I think it would be but fair to supply some test of *highest* intelligence. That of academies and colleges existing will not do, since many of these are often but in name, or are supported by students of distant sections, as is the case with many at the North. A State may show no one ignorant of "reading and writing," and, at the same time, very few of high or even moderate scholarship; whilst the reverse may be true of another State. If the census presents one side of the picture, it should present both. It is due to the State, branded in one way, that she have all the advantages due to her in another.

It may be impossible to give this test of *higher* education. Perhaps so; but then in fairness strike out the other test, which, when taken alone, is only calculated to mislead. Better ignorance than error or injustice.

Something might be learned from the quantity of books sold in different sections, or the character of these books, and the number of newspapers and periodicals taken. A better test would be furnished by them of the condition of a people than the other. Publishers of books, periodicals and newspapers, in those sections of the Union where the people all know how to "read and write," might answer, if the query were propounded to them, that they are indebted for their very existence to the circulation they obtain for their productions in other sections, where a large mass do not enjoy that distinction. The number of actual readers with us is disproportionably larger than the number "unable to read" at all, and the law which governs these classes is often the inverse one.

But, with all these facts before us, the truth might yet be very far off. The South, whose deficiency on the strength of the census returns is so much paraded, has yet an advantage which the census cannot show, and which a late writer has well delineated:

"Her social intercourse is probably much greater than that of any people that ever existed. There is certainly nothing like the number of visits among the families of a city, or even the same square of a city, as prevails in the country of the South. And these visits are not fashionable, but last for days and weeks, and they are the great resource of the South for instruction and amusement. It is true that persons are not taught at such places to read and write, but they are taught to think and converse. They are the occasions of interchanging opinions and diffusing intelligence; and, to perform the duties, to enjoy the pleasures of such intercourse, to please, to shine and to captivate, require a degree of mental culture which no custom of the North so much demands. Accordingly, the South exhibits the remarkable phenomena of an agricultural people, distinguished above all others of the present day, by the elegance of their manners and the intellectual tone of their society. And it is to the solitude which the rural life of the South affords, so favorable to reflection—and it is to the elevated

rural society of the South, so favorable to the study of human nature—that we must ascribe these qualities of persuasion and self-command by which her statesmen and captains have moved the public councils and won so many a field."

[*To be Concluded.*]

EDITOR'S DEPARTMENT.

1. NEW BOOKS, ETC.

From the house of Harper & Brothers, through J. B. Steele, New Orleans, we have the following works:

1. The History of the United States of America, from the Discovery of the Continent to the organization of Government under the Federal Constitution. By Richard Hildreth. In 3 volumes; vol. iii, 1849.

We postpone the perusal of this work until the first and second volumes are before us, in order that, in a full critique, we may be enabled to do it justice. So far as one may judge, from the opinions of the press, the production would appear to be eminently meritorious and deserving of general favor. The style is clear and condensed, and the typographical execution highly finished. The volume before us includes the whole period of the Revolution and that which succeeded under the articles of federation until the formation of our present federal system. This portion of our history cannot be too closely studied by every American citizen. We shall refer in our next more fully to the work.

2. A copious and critical English-Latin Lexicon, founded on the German-Latin Dictionary of Dr. Charles Ernest Georges. By the Rev. Joseph Esmond Riddle, M. A., of St. Edmund Hall, Oxford, author of a complete Latin-English Dictionary, &c., and the Rev. Thomas Kerchener Arnold, M. A., Rector of Lyndon, and late Fellow of Trinity College, Cambridge. First American edition, carefully revised, and containing a copious Dictionary of Proper Names from the best sources. By Charles Anthon, LL. D., Professor of the Greek and Latin Languages in Columbia College, New York. 1849.

This work aims at a higher standard of accuracy and completeness than any of its English predecessors. "No English-Latin Dictionary, hitherto published, has ever professed to give any account of the use of words set down, their synonymical distinctions, the niceties connected with their employment by classical writers, with such remarks and cautions, as a cursory glance at any important word in the following work will prove, that it has attempted to supply."

The distinguished name of Professor Anthon, connected with this edition, will give to the public and to students the highest guarantees of its ability and merit.

It is dedicated to Professor William Hawkesworth, of the College of Charleston. This name calls up a thousand agreeable associations and memories in our bosom. He was our early friend and guide in classic fields, and it cheers us to recur again to such scenes. A purer, nobler specimen of manhood never lived—a nature generous and confiding, a patience untiring and inexhaustible, a heart full of every kindly sympathy. In classic literature few men in our country have accumulated such stores and hold them so unobtrusively. Never scholar more enthusiastic, never preceptor more devoted to the student's interest, or capable of advancing him to higher perfection. This is but a poor tribute from us, who are so much indebted. *Hic Licinius fructum a me repetere prope suo jure debet.*

3. Glimpses of Spain; or, Notes of an Unfinished Tour in 1847. By S. T. Wallis. 1849.

This is one of the most highly interesting works for a long time published. Everything in regard to life, society, manners, etc., in old Spain, carries with it something of romance. Our traveler has, however, observed very closely and furnished most graphic pictures. The various cities of Spain are minutely described, and the general state of industry throughout the kingdom. The subject was not unfamiliar to him, as the author tells us, before his visit, and his opportunities for observation and information while there were, perhaps, better than those which strangers commonly enjoy.

2. TO THE PLANTERS.—SUGAR AND COTTON.

The importance of an agency in New Orleans, in connection with the Review, to aid the planters in the *purchase and sale of estates*, has frequently suggested itself. We have determined to start it. As the Review circulates largely in all the southern and western States, and is now getting a northern circulation, planters will have an opportunity of offering their estates to the best advantage. They will be charged for the advertisment of estates, according to the space occupied and time advertised, *on reasonable terms*, in the pages of the Review, as will be agreed upon. When sales are effected through the agency, the usual commission will be charged. *Editorial notices* will be called to the estates. Messrs. Weld & Co., publishers of the Review, able and energetic business men, will take *exclusive* charge of this department.

☞ All letters relating to the business of the Review will be directed to Weld & Co., No. 68 Camp street, New Orleans; all relating to editorial, to J. D. B. De Bow, care of Weld & Co., publishers Commercial Review, New Orleans.

3. OUR BOUND VOLUMES COMPLETE.

We have still a few sets remaining of the Old Series of the Commercial Review, in handsomely bound volumes, 1846—1849. We wish those of our subscribers who have not the work complete would order them, or have them taken by the public or private libraries in their vicinity. In a short time it will be impossible to obtain them on any terms, as the edition printed was small. We are anxious to distribute the volumes, and will deliver them at any points. Address Weld & Co., Publishers, No. 68 Camp street, New Orleans.